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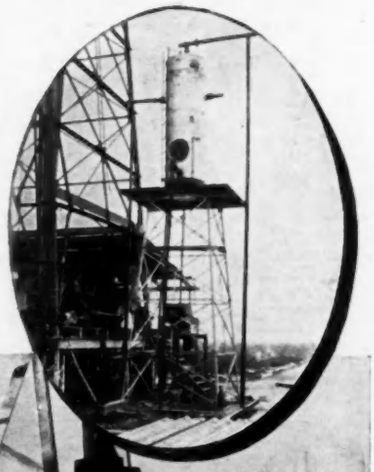

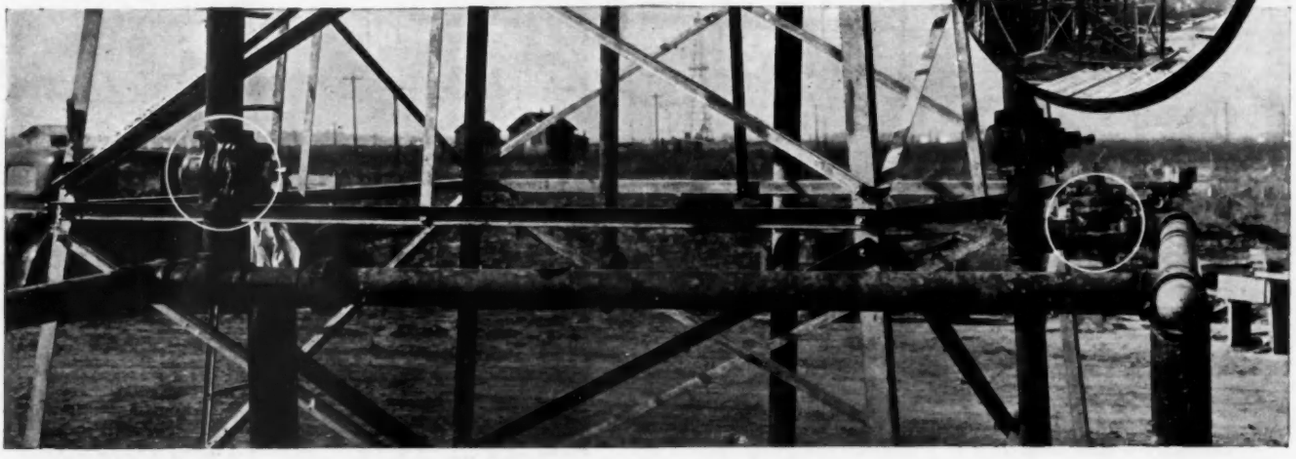

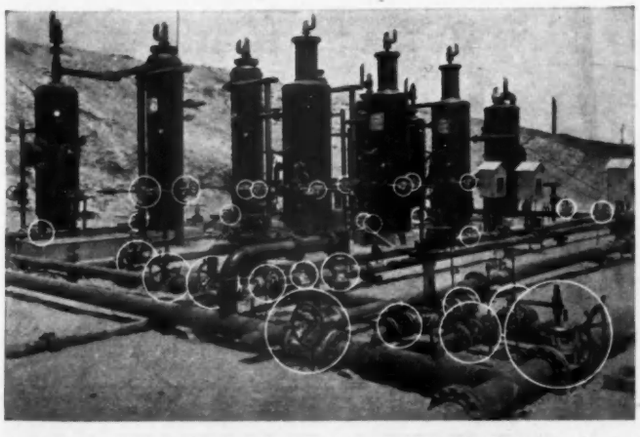

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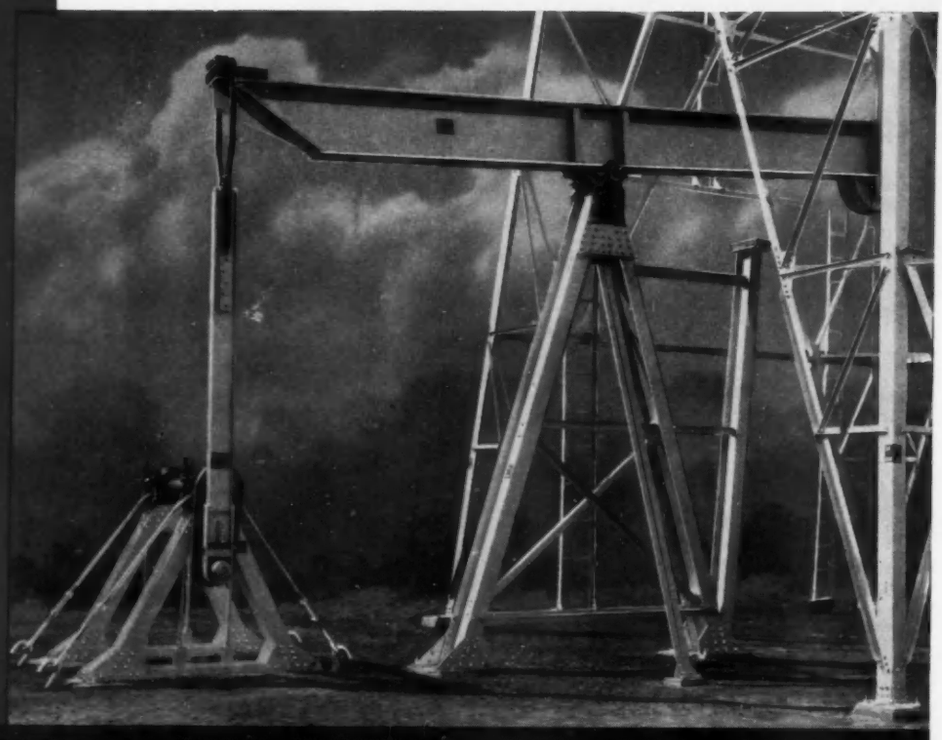

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THE OIL WEEKLY

ENGINEERING « STATISTICS » THE WEEK'S NEWS

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THE OIL WEEKLY

FOR OIL AND GAS PRODUCTION AND
PIPE LINE DIVISIONS

ENGINEERING • NEWS • STATISTICS

The Changing Panorama

A CRISIS has arrived in the petroleum industry. Immediate developments are expected to determine whether the industry will operate under the "control process" or if it is to be a case of open competition with little or no restrictions of any kind.

During the week several smaller purchasers cut the price of crude oil. These concerns are buying oil in East Texas, Arkansas and Kansas. As this is being written no general price cut has resulted, which lends hope that crude oil postings will not be slashed generally. Apparently other purchasers of oil, including the larger concerns, are going to give enforcement agencies a chance to do something worth while. A number of important steps were taken by enforcement forces during the week, which may relieve the industry of its hot oil burden. However, actual results must be awaited as the moves heretofore have not been successful. Of interest is the drop in tank car shipments the first day. Meanwhile the industry is waiting the outcome of the most important crisis it has experienced in a long time.

Regardless of which way the tide turns it must be remembered, however, that the outlook is not as dark as it may appear. True, conditions may be very severe for a time, but over a long duration the industry is in an excellent position. The old saying that there is a silver lining to every cloud is certainly true in the present predicament of the industry. The industry is confronted with the necessity of producing a tremendous amount of oil during the decade if it is to keep pace with consumption, which today amounts to 2,500,000 barrels daily. With this outlook it seems certain that the industry is to see better times before many years.

Also it may be well that the crisis has arrived. The industry as a whole has been sitting back trying to determine the trend, but events have not been of such character to prevent it to do so. Now oil men will be able to see which way it is heading. Knowing this they will be enabled to run their business accordingly, which removes a great uncertainty—whether developments are opposed or favorable to their ideas.

The Oil Man's Calendar

OCTOBER
29 *American Gas Association, Atlantic City, New Jersey.*

NOVEMBER
2-5 *A. A. P. G., San Antonio Section, Annual Meeting and Field Trip, Laredo, Texas.*
8-9 *A. A. P. G., (Pacific Section), Hotel Mayfair, Los Angeles.*
12-15 *American Petroleum Institute, Dallas, Texas.*
13-14 *House Oil Investigating Committee Hearing, Dallas, Texas.*
22-23 *Road Oil Congress, Annual Meeting, Tulsa, Oklahoma.*
25 *House Oil Investigating Committee Hearing, Los Angeles, California.*

DECEMBER
4-5-6 *Petroleum Electric Power Club, Beaumont, Texas.*
7-8 *Independent Petroleum Association of America, Annual Meeting, Fort Worth, Texas.*

MARCH
21-23 *American Association of Petroleum Geologists (Annual), Wichita, Kansas.*

Maneuvers on the Hot Oil Front

Control forces launch desperate campaign against East Texas violators. General crude price cuts are held off and gasoline markets bolstered by promise of effective regulation and expected renewal of surplus gasoline buying.

JACK LOGAN
Associate Editor

A CRUCIAL situation has developed in the hostilities that have been carried on incessantly for nearly four years between the hot oil merchants of East Texas and the sponsors of oil control.

After months of lethargy, the oil control forces finally have aroused themselves to desperate efforts. Last week they launched, simultaneously, several moves calculated to rout the opposition. And it appeared, in view of surrounding circumstances, that the outcome must be either a clear victory for the "controllists," or else a disastrous repulsion.

Since the hot oil side had successfully turned back many determined attacks before, however, there was no assurance of victory for the control forces in their new campaign.

Moves by Oil Control Side

The drive that was launched by the oil control side was sufficiently propitious, nevertheless, to bolster the weakened gasoline markets and to hold off, at least temporarily, the seriously threatened collapse of the crude price structures. Buyers of both gasoline and crude oil were implicitly conceding that the renewed efforts toward effective control looked interesting if not altogether encouraging. But more or less unchanged prices reflected, at the same time, general doubt concerning the ultimate success of the control campaign.

Featuring the maneuvers on the oil control side last week were three important moves: (1) the launching of a new shipping control program by the federal government, (2) arrival in East Texas of a group of special representatives of the Department of Justice, presumably in preparation for a drive by injunctions and indictments against oil regulation violators, and (3) further progress toward reinstatement of surplus gasoline buying in East Texas by major companies.

New Shipping Regulations

UNDER regulations promulgated October 20, federal oil control authorities launched a program October 25 aiming at elimination of interstate shipments of hot crude and hot refined products. The program, a counterpart of that previously inaugurated by the Texas Railroad Commission for intrastate shipments, requires the railroads to refuse to accept shipments unless shippers can present tenders showing that the oil involved was produced legally. Shippers must apply for the tenders before a three-member federal tender board, sitting in East Texas.

Composing the tender board are Norman L. Meyers, executive secretary of the Petroleum Administrative Board, chairman; Ralph Horween, executive assistant to Oil Administrator Ickes; and J. Howard Marshall, of the Petroleum Administrative Board. Blanks for use in compliance with the tender regulations were hurriedly printed in Austin and rushed by airplane to East Texas.

Of the hot oil leaving the East Texas field lately, about 40 percent has been going interstate, and 60 percent intrastate. For more than a month the total volume of hot crude and products has averaged over 100,000 barrels daily, it is generally reported. Such volume continued up to the inauguration of the federal tender plan. But immediately thereafter the volume is indicated to have dropped conspicuously. The tender orders were reported to have caused a drastic reduction in tank car shipments. Interstate shipments out of the area by one railroad were reported to have dropped from 741 tank cars October 24 to 16 cars October 25, date the orders became effective. It was considered significant, also, that a considerable number of refineries were reported as having closed down on launching of the plan.

Possibilities of Tender Orders

CONSIDERING the exceptional success enjoyed temporarily by the Texas Railroad Commission when it introduced its similar shipping regulation, it was considered possible that the federal program might prove almost 100 percent effective, in which event it would block the 40,000 barrels per day of interstate shipments of hot oil. Elimination of such a volume of hot oil, it was figured, would naturally do much toward correcting the existing disorderly conditions.

It was obvious, at the same time, however, that there was danger of diversion of some of the 40,000 barrels

into intrastate commerce. How much more of the hot oil Texas would be able to absorb within its own borders was questionable, but it was generally conceded that at least some additional might be absorbed.

The railroad commission has been unable to continue applying its similar tender orders successfully, due to unfavorable court decisions. Not until December 25 will a recently enacted Texas law, specifically authorizing such a program, become effective. Under existing laws, the commission's authority is limited to regulation of crude oil, not refined products, a court has held.

Injunctions May Block Shipping Control

FURTHER clouding the federal government's newly instituted shipping control program was the possibility it might be rendered ineffective through court interference.

The tender regulations are based not upon the oil code but directly upon sub-section 9 (c) of the National Industrial Recovery Act itself. The sub-section provides that the President may prohibit interstate shipment of petroleum and products produced in violation of state oil conservation laws or orders. Violations of presidential orders issued under the sub-section are punishable by fines up to $1000 and imprisonment up to six months.

Whether or not the sub-section is valid is a question that has not been ruled upon finally by the courts. It appears likely, however, that the contemplated rigid enforcement of the tender orders may lead some East Texas company or group of companies to apply to the federal courts for relief. If such relief is granted, through temporary restraining orders or injunctions against the federal authorities, the program will be rendered inoperative pending further court hearings, and possibly pending appeal to higher courts.

Such court restraint was placed on the federal authorities in connection with the Panama-Amazon case, eight months ago, and the plaintiffs still enjoy court protection, even despite reversal of the trial court's judgment in an appeals court, pending review of the case by the United States Supreme Court.

The plaintiffs in the Panama-Amazon case questioned the validity of Section 9 (c), but Federal District Judge Randolph Bryant, upholding the plaintiffs, did not decide the case on that point. The decision was made on plaintiffs' objections to provisions of the oil code and to regulations issued by the oil code administrator.

Validity of NIRA Section Doubted

FOR the purposes of the Panama-Amazon case, in other words, it was conceded that Congress may prohibit interstate transportation of oil produced in violation of state laws. In making that concession, the court nevertheless indicated doubt as to the section's validity. The concession was described as "Indulging . . . the violent presumption that Section 9 (c) is valid, in the face of the complaint made against it to the effect that it is an abdication by Congress of its function of legislating, and an unconstitutional delegation of authority to the President of its power to legislate . . . " Continuing, the opinion stated, in this connection, "It might be said in passing that there cannot be perceived from this expression of Congress any expression of will or intent of its own, and that it prescribes no penalty for a violation of the Act, but that the penalty prescribed is for violation of any orders that the President might make under the Act . . . " While conceding it for the purposes of the decision to be valid, the court even went so far as to say that it entertained "the gravest misgivings, if not the absolute certainty of conviction, that this provision of the act is invalid by reason of its delegation to the Executive of legislative authority . . . "

It would appear, in view of these excerpts from the district court opinion, that East Texas operators, objecting to the federal tender orders, might reasonably hope for success in obtaining injunctive relief.

To the contrary, however, there were some expressions of opinion late in the week to the effect that no injunction would likely be granted. The attitude of the federal district court serving East Texas would, of course, determine the result of an application for injunction. There seemed to be an idea abroad, in that connection, that the court involved has had a change of heart, or opinion, as it were, toward enforcement of the federal government's orders to control the oil industry. That, of course, was pure speculation, but a few months ago the speculation would have run the other way.

If applications for injunction should be denied, appeal could be taken to the higher courts. But the orders would remain in effect pending hearing on the appeal, and the tender program would benefit accordingly.

Federal Envoys Hasten to Texas

MEMBERS of the newly created tender board, along with others, including Charles Fahy, vice chairman of the Petroleum Administrative Board, were representatives of Oil Administrator Ickes who rushed from Washington to East Texas last week to take part in the drive against hot oil.

Meanwhile another branch of the federal government, the Department of Justice, sent agents from Washington to the hot oil front in East Texas, proposing to institute injunction and indictment proceedings against violators. To the scene of conflict flew L. R. Martineau, Jr., special assistant to the United States attorney general, recently appointed to lead the department's campaign. Riding the special army plane with him to Tyler were Joseph A. Barrett and Morris R. Clark, also special assistants to the attorney general, and Richard

C. Heaton, special attorney in the anti-trust department of the Department of Interior.

These special envoys augmented regular federal field forces and special agents previously maintained in the area. Those already on the ground included, for instance, L. R. Glavis, director of investigations for the Department of Interior; R. J. McCormick, special agent of the Department of Interior; Louis A. Green, manager of the district contact office for the program committee of the oil code Planning and Coordination Committee. The latter was directing negotiations between East Texas refiners and the major companies for resumption of the surplus gasoline purchasing agreements.

Crucial Test for Oil Code

From some quarters last week's desperate and ostentatious efforts of the federal authorities were looked upon as a crucial, decisive drive, which might save or lose the NIRA oil code as an operative instrument. It was figured that if these efforts failed, particularly the tender program, then there remained but the faintest of hope that federal regulation would thereafter be regarded seriously. The situation had gone so far, it was believed by some, that only the shipping control offered much hope. That plan had potentialities for giving relief quickly. Its failure would still leave the way open for prosecutions under well-control regulations. But such prosecutions would be slow and tedious, and would not afford the emergency relief regarded by some as necessary.

Refiners Accept Gasoline Plan

OUT of East Texas late last week came indication that practically 100 percent of the operating refineries of the district had agreed to participate in the proposed surplus gasoline buying program. Representatives of the federal government were quoted as predicting that the plan would be placed in effect on or shortly after October 29.

Of all the desperate efforts to restore stability, the gasoline buying program seemed to hold out the most important possibilities. For it represented an effort at control from within the industry rather than through coercion. And past experience has demonstrated that the East Texas refiners are more easily led than driven, although they are balky in either case.

Furthermore, the gasoline buying is not an untried expedient. It was used for several months during the past summer with at least some degree of success. Hot oil was not eliminated, but it was held down by the major company purchases of gasoline. The refiners making the sales were obligated to process only legally produced crude, and to abide by gasoline production allocations under the oil code. Some of them violated their obligations. But in the program now contemplated there would be less incentive to break faith. Previously, the purchases were at fixed, guaranteed prices. Under the new program, they would be at spot prices, and the refiners could obtain favorable prices from the major companies only if they exercised the restraint necessary for a good spot market.

The question naturally arose, however, as to whether or not the lack of the guaranteed favorable price would leave the program practicable. The changed price policy, it was felt by some, might leave the refiners without sufficient incentive to turn good and stay good. Concerning the general approval by the refiners, there was consequently much skepticism and much concluding that some plant owners had agreed with their fingers crossed.

Since any port looks good in a storm, however, the gasoline buying plan, despite its weaknesses, was being earnestly sponsored. And while it was obviously no more than an expedient, offering only a temporary, emergency solution to existing disorder, the plan perhaps generated more hope, as previously indicated, than the clamorous enforcement activities.

State Control Efforts

WHILE federal agents were engaged in their desperate efforts, some increased determination was also shown in East Texas in state enforcement. The Texas attorney general's department, after having recently convicted several producers and refiners, was pushing other prosecutions. The Texas legislature, in special session, was being urged to create a special court in East Texas for trial of oil law violation cases. The Texas Railroad Commission had in readiness a contemplated order that would call for the complete shutdown of all fields in the state if other stabilization moves should fail.

Market Crisis Lingers

AS all these oil control efforts and plans progressed, there persisted anxiety over the prices of gasoline and crude oil. But it remained for the unknown future to reveal what the outcome would be. Gasoline prices, wholesale and retail, improved a little, but were still inordinately depressed. Crude prices were sharply cut by several small purchasers in East Texas, Oklahoma, and Kansas. But the major companies continued to pay the old prices for crude, pending further developments.

Tender Hearing *Reaction Good;* *Airtight* Court Action Promised

Washington.—Early court action against East Texas hot oil runners, with the government's cases "airtight" was promised today by Attorney General Homer S. Cummings.

Indicating his disapproval of the manner in which the interior department had approached the situation in its effort to apprehend code violators, Cummings stressed the intention of the department to keep the reins of prosecution in its own hands.

To this end, L. R. Marineau, special assistant to the attorney general, has been placed in full charge of the prosecutions in Texas, supported by a staff of five lawyers from the department and receiving the cooperation of the division of investigation of the Interior department and the Petroleum Administrative Board.

Indicative of his belief that the justice department should handle all prosecutions, the attorney general, referring to cases prepared by the interior department and thrown out of court for lack of sufficient evidence, declared that he had an "old fashioned idea" that the government should have its evidence complete before going into court.

Meanwhile the federal tender board is proceeding slowly with its work of authorizing shipments of oil and its products from the East Texas field, reports to Washington from Tyler disclosing that the board yesterday, after its first hearing, issued only one tender for the movement of processed oil although approving about 50 permits for shipping crude.

Commenting upon the report, officials of the Petroleum Administrative Board today pointed out that hot oil producers operate through profits from moving refined products rather than crude, and that the board apparently intends to obtain full information before clearing any oil products.

"The general reaction of oil men to the first meeting of the board is excellent," it was declared. "E. O. Thompson, of the Texas Railroad Commission, has pledged the fullest cooperation of that body.

"As an indication of the fear of this new move by the oil administration felt by hot oil operators, the railroad yards of East Texas, usually jammed with tank cars, are almost deserted. The bulk of the legal oil moves via pipe line to coastal gathering points for transshipment."

Roosevelt Spurs *Department Effort* *To Control* Oil Situation

Washington, D. C.—Admitting that the oil situation is "very disturbing," President Franklin D. Roosevelt on October 24 disclosed that every effort was being made to cope with the hot oil situation that threatens the very existence of the oil code.

The President's attention was focussed upon the situation as members of the new Federal Tender Board—Norman L. Meyers, executive secretary of the Petroleum Administrative Board, chairman; Ralph Horween, executive assistant to the Administrator, and J. Howard Marshall of the Petroleum Administrative Board—met at Kilgore, Texas, for its first hearings on applications for shipping permits.

At the same time, it was revealed, special attorneys of the Department of Justice were in conference with Texas authorities with respect to the initiation of prosecutions for violations, and had been instructed to cooperate with the Texas Railroad Commission should it order the cessation of production in the East Texas field.

In Washington, the Planning and Coordination Committee was in executive

In the photograph from left to right are: R. J. McCormick, special agent of the Department of the Interior; L. R. Glavis, director of investigations for the Department of the Interior; L. R. Martineau, Jr., Special Assistant Attorney General of the United States; Richard C. Heaton and Morris R. Clark, special attorneys for the Department of Justice; and Joseph A. Barrett, special assistant to the Attorney General of the United States. McCormick and Glavis met the other four at the Tyler airport when they arrived Tuesday afternoon, October 23.

session over a period of several days, during which it considered possible ways and means for aiding in the situation. Suggestions that the President or the Administrator be asked to invoke the price-fixing provisions of the code, made by Oklahoma and Texas interests, were before the committee for discussion, but it is understood that price-fixing is not considered a cure to be applied at this time.

It was freely predicted in Washington that the new Federal Tender Board would find itself involved in litigation within a few days after it began operations. While the President's authority to exercise control under the Connally provisions of the industrial recovery act have been upheld by a District of Columbia court, it has never been finally settled by high court decision, and it is anticipated the constitutionality of the provision will be challenged, possibly to be carried to the United States Supreme Court for determination.

Further heavy price cuts marked the progress of the gasoline war in the Eastern territory during the week, with both independent and major distributors apparently determined not to retreat until the issue had been finally settled. In some areas prices were at the lowest level in many months.

Observers in Washington believe that the oil code is about to encounter the test which will determine whether it is to survive. If the tender plan fails, it is predicted, the code will go overboard, even if the Department of Justice becomes active in prosecutions, it being pointed out that the disposition of violations in the courts would take so long as to make quick solution of the overproduction problem impossible.

The oil administration is fighting with its back to the wall, it is said, the demoralized conditions which now prevail throughout a large part of the country having given rise to an increasing demand that the code either be enforced or abandoned.

Nevertheless, it is declared the government will not abandon the oil code, even if it becomes necessary for the President to take some radical step to place full control of the situation in the hands of the Federal authorities. While officials here are keeping silent as to their future plans, it is believed Attorney General Homer Cummins and Administrator Harold L. Ickes have laid before the President steps to be taken as a last resort should the present effort at control prove a failure.

Texas Commission *Urges Federal Action;* Threatens Shutdown

Austin, Texas. — The Texas Railroad Commission last week took the initiative in attempting to get cooperation of the federal authorities to prevent the movement of "hot" oil from the East Texas field.

On Monday they sent telegrams to Texas Senators Tom Connally and Morris Sheppard asking that they bring to the attention of President Franklin D. Roosevelt the gravity of the situation which was rapidly bringing the oil industry to a crisis.

"We appealed to the United States Attorney General," the telegram read, "but got no reply or action . . . after a month we went to Washington . . . and Solicitor Margold of the Department of the Interior wired . . . Fahy to start action at once . . . After waiting two weeks we wired Attorney General Cummings . . . No answer came . . . Please get authority for suits to be filed today . . . "

The same afternoon telegrams were received from both senators announcing that L. B. Martineau of the Department of Justice was proceeding to Tyler and that the suits would be filed "as swiftly as the law allows."

The commission had pointed out that the evidence had been gathered and the petitions prepared, so that only the signature of a properly authorized federal official was essential to immediate action.

Tuesday the commission instructed Laten Stanberry, chief supervisor of oil and gas to prepare an order shutting down every producing well in Texas and all pipe lines and gasoline plants.

Gordon Griffin, chief petroleum engineer of the commission, had previously prepared in letter form a recommendation that all of the fields in the state be shut down to permit equalization of pressures and the leveling of water tables, and to allow the commission to prepare orders on a new basis of proration to be applied uniformly over the entire state.

This program, uniform proration and uniform allowables for each well in Texas, has long been considered by Griffin, and he has expressed the opinion frequently that such a method of allocation is the only system that would prevent discrimination between fields.

Most of this recommendation was contained in the order prepared by the railroad commission. However, the addition of stripping and casinghead plants, with the exception of those whose residue gas is used for light and fuel, was done at the specific request of the commissioners. This also applied to the section of the order applying to pipe lines.

The order specifically set out that the action would be taken for the purpose of prevention of physical waste, purely a conservation move, but most analysts agreed that the primary motive was to curb proposed price cuts.

Hundreds of wells in Texas would be irreparably damaged by a shut-down program. No one is more aware of this than the members of the Texas Railroad Commission and it is doubtful if they would overlook this condition, regardless of how serious the price situation may become.

The full text of the shutdown order is set out below.

Four Oil Tax Bills Before Texas Legislature

Austin, Texas.—Members of the Texas Legislature now have before them four tax bills affecting the oil industry. While experienced observers express the opinion that they have not progressed sufficiently to pass in the brief time which remains of the current session, it is possible that the legislature may sieze upon one of them as a solution to the problem of replenishing an empty treasury.

The general gross production tax law instituted at the request of State Comptroller George H. Sheppard to correct defects in the law now effective, successfully passed the House Committee on Revenue and Taxation without the proposed increase in the amount of tax to be collected being brought before that body.

Representative A. K. Daniel of Crockett, however, is expected to attempt to amend this bill when it is brought out for consideration on the floor of the house. The tax of two cents per barrel which is now collected brings in revenues in excess of $7,000,000 annually.

The 50 percent increase proposed by Daniel, three cents per barrel so long as oil sells for $1 or less and three percent of the value thereafter, would mean a total increase of $3,500,000 to the general revenue fund of the state.

The house also has before it a bill to tax chain stores, which the author of the bill, Representative J. F. Lindsey, says will include all filling stations, although they are not specifically named in the body of the act.

The tax is graduated from $3 on single units to $500 on each unit in chains of 50 or more. Most of the larger company filling station chains would fall in to the class paying the highest tax.

As a means of financing the proposed

A Baker Bakwik

FULL HOLE DRILL PIPE FLOAT

. . . for *"Full Hole"* Rotary Tool Joints with ALL the Advantages of the *Standard* BAKER BAKWIK DRILL PIPE FLOAT

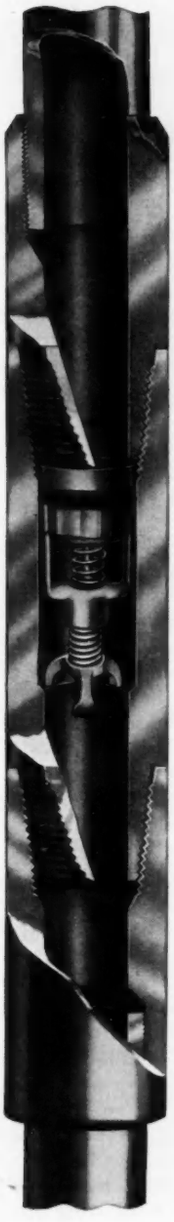
BOTH the Baker Bakwik FULL HOLE and the STANDARD Drill Pipe Floats fulfill the demands of modern drilling practice. They provide a valve assembly — without threads — that can be removed and replaced quickly and easily, to increase efficiency and economy in drilling operations.

The Bakwik "float joint" does not have to be removed when a clear passageway through the drill stem is desired. The joint is broken at the top and the valve assembly lifted out by hand. And this valve assembly is just as easily replaced by merely dropping it into place, without the aid of wrenches or any special tools.

The valve assembly in Bakwik Drill Pipe Floats is merely lifted out and dropped into place by hand — no wrenches or special tools are required.

BAKER BAKWIK DRILL PIPE FLOATS

1. Relieve weight on derrick, rig equipment, lines and draw works;
2. Minimize the danger from a dropped or parted drilling string;
3. Contain a valve assembly, without threads, which is easily removed or replaced;
4. Prevent plugging the bit;
5. Are readily unseated to permit reverse circulation;
6. Safely "float" any length of drill pipe down the well;
7. Provide definite savings under all drilling conditions;
8. Are economical to purchase and to use.



The Baker Bakwik Full Hole Drill Pipe Float

is a TRUE "Full Hole" drill pipe float, with a "full hole" streamlined passageway, which is absolutely essential when Full Hole Tool Joints are used. It is equipped with a "Full Hole" valve assembly made of special alloy heat treated castings for long life—a valve assembly, without threads, that provides ease and speed in removal or insertion.

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Centennial celebration, a bill has been introduced taxing nearly every industry in the state, and increasing the assessments on some industries now heavily burdened.

Oil, of course, is included. A tax of one-fourth of one cent per barrel to be assessed for this purpose is provided by the bill, and it extends over an indefinite period.

This bill also provides for a one percent gross receipts tax on gas utilities to be collected during the years 1935 and 1936.

In addition, and as something of a supplement to the omnibus bill, is House Bill 38, which increases by approximately 20 percent the franchise tax on all corporations not otherwise taxed in the omnibus bill.

The body of the bill, however, nowhere provides for the exemptions, and it appears that the bill would actually increase by 20 percent the franchise tax now paid by every domestic and foreign corporation chartered to do business in Texas with the exception of the public utilities. These have a different rate of increase as set up in a separate schedule.

The two bills last considered would bring a total of $6,000,000 into the treasury, according to estimates of their sponsors, but no figures were presented upon which these calculations were based.

Bill Provides for New Texas Oil Commission

Austin, Texas.—An appointive "Natural Resources Commission" is proposed in a bill prepared last week by Representative Jesse James of Thorndale, to take over from the Texas Railroad Commission the administration of the state conservation laws relating to the oil and gas industries. Late in the week James had obtained 50 signatures to the bill, he said, and he plans to ask Governor Miriam Ferguson to submit the measure at this session.

The new commission would have three members serving terms of six years each. These terms would be staggered, just as they are at the present time. The governor, the lieutenant governor, and the speaker of the house would each have one appointment.

The members, who would receive a salary of $6,000 annually, must be more than 35 years of age. One business man, one lawyer, and one petroleum engineer would constitute the board.

A tax of ¼ of one cent per barrel, double the sum now allowed the railroad commission, would be provided for the support of the new body.

In addition to the duties now performed by the railroad commission, the new board would take over the State Board of Mineral Development which passes on all public lands leased by the state for exploitation by private concerns.

Because the measure has been presented late in the session, its passage is very doubtful, if it is submitted by the governor and introduced.

Thompson Says East Texas Conditions Have Improved

Austin, Texas.—Commissioner Ernest O. Thompson declared Friday that conditions in the East Texas field had improved materially, and indicated that the crisis had passed, in his opinion. He pointed out, however, that there was still in reserve the general shut down order prepared by the commission. The commissioner insisted that the purpose of this order was not to bolster the price, but to assist the commission in carrying out its conservation program. However, he explained that if the order was issued now while the price is cut in some sections, there would be less loss to producers than when the price was higher. "The farmer shucks his corn when it rains," he said. Thompson readily agreed that it would not be wise to shut in some of the piercement-type dome fields, but said that they could be excepted from the order.

East Texas Set Up as Separate Refining District

Washington, D. C.—Revamping of Texas as a gasoline refining district so as to set up the East Texas area as a district subsection was announced October 25 by the Oil Administration, acting affirmatively on recommendations of the Planning and Coordination Committee and the Petroleum Administrative Board.

Both committee and board, it was explained, felt that the redefinition would be helpful in maintaining an equitable division of gasoline production quotas within the district and would make possible a more accurate check on refining operations in East Texas.

Heretofore, Refining Region No. 5 has comprised the state of Texas, divided into sub-districts A and B, with East Texas part of sub-district A. Under the new order, the East Texas area is formed into sub-district C, consisting of Anderson, Cherokee, Gregg, Harrison, Panola, Rusk, Smith, Upshur and Wood Counties.

Sub-district A now will consist of all Texas except the Gulf Coast and East Texas, while subdistrict B, the Gulf Coast area, will include Orange, Jefferson, Hardin, Liberty, Chambers, Montgomery, Harrison, Galveston, Waller, Fort Bend, Brazoria, Austin, Colorado, Wharton, Matagorda, Jackson, Victoria, Calhoun, Refugio, Aransas, San Patricio, Nueces, Kleberg, Kenedy, Willacy and Cameron Counties.

Washington Protests Japan's Oil Policy

Washington.—Demands for an "open door" for American oil companies doing business in Japan and Manchukuo have been filed with the Japanese government by the State Department, it was learned Thursday.

The department's representations on the subject followed receipt of complaints from American oil companies about the treatment accorded them by Manchukuo and Japanese governments. Similar complaints by British and Dutch oil companies are understood to have resulted in their respective governments also taking the matter up.

Establishment of a government monopoly on oil in Manchukuo is said to be viewed by the State Department as a violation of the "open door" policy in China, while recent restrictive legislation in Japan also has been the subject of complaint because of the financial burden involved in meeting a requirement that all foreign companies maintain in tanks within that country a constant supply of oil equal to sales during the preceding six months.

Officials were not at all satisfied with the response of the Japanese government to the representations of the State Department against restrictive legislation in Japan and the oil monopoly set up by Manchukuo, it was indicated.

The statement that so far as the Manchukuo situation was concerned Japan is just another "foreign" country was seen here as an attempt to evade the issue.

Although State Department officials refused to comment on Japan's attitude, there were indications that they would press their protests against the Manchukuo monopoly. It was also indicated that they would not follow Japan's suggestion that such protests should properly be laid before the Chinese government.

The protests of the oil companies, particularly against those provisions of the Japanese law seeking to force them to carry heavy supplies in tanks in that country, have resulted in stirring up a cloud of distrust as to just what Japan has in mind, which was not allayed by issuance of reports that the military party is in control of the Japanese government and is seeking to build up large supplies of oil which could be drawn upon at a moment's notice. Japan herself has little or nothing in the way of an oil supply, but her fleet, as well as most of her merchantmen, are oil engined.

It is indicated that the State Department looks with much distrust upon any move by Japan which might attempt to use American facilities for the creation of war reserves of any nature, and particularly of oil.

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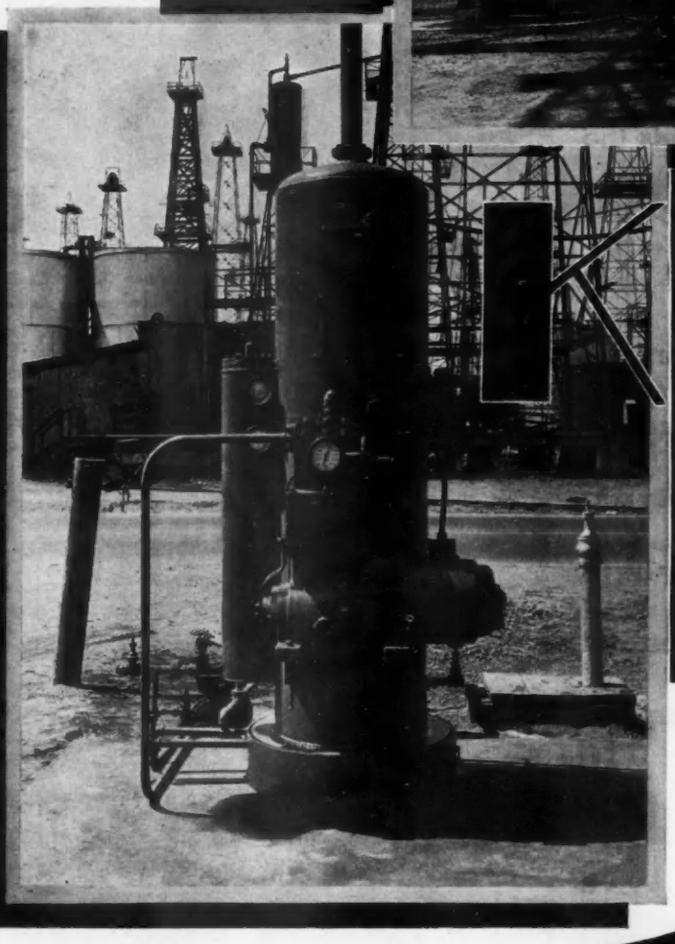

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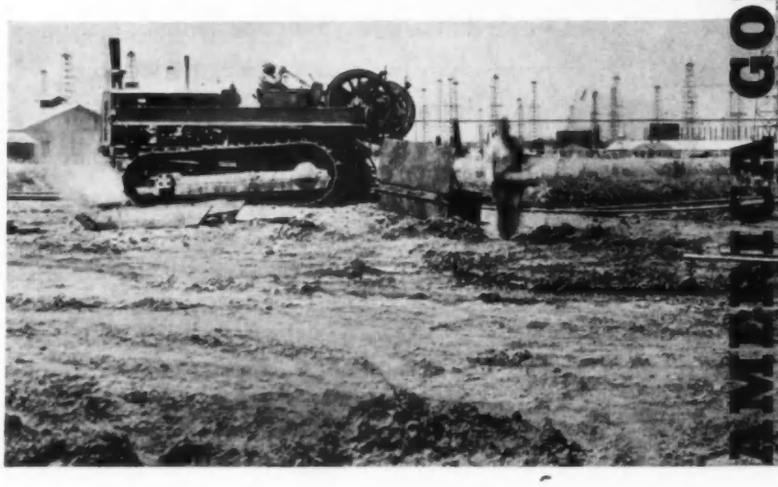
"Caterpillar" Diesel Thirty-Five Tractor saves money on numerous power jobs for the Yount-Lee Oil Co. at High Island, Texas—here it is helping construct a derrick.

With this winch-equipped "Caterpillar" Diesel Tractor, the Carter Oil Company services its Oklahoma City wells quickly and economically, pulling and replacing 6800 feet of tubing in an eight-hour day.



MEN IN THE INDUSTRY'S NEWS

W. S. S. ROGERS, president of The Texas Company, headquarters in New York, arrived in Los Angeles October 15 for a few days visit with officials of The Texas Company of California.

O. D. DONNELL, president of The Ohio Oil Company, Findlay, Ohio, and E. B. Redpath, secretary, completed an inspection tour of the East Texas properties of Marathon Oil Company, a subsidiary, during the past week. H. D. McCracken, vice president of Illinois Pipe Line Company, an affiliated unit, accompanied the visiting officials on the field trip.

E. H. BLUM, general manager of Atlantic Oil Producing Company's Dallas division office, visited the company's West Texas-New Mexico district office during the past week.

JAMES C. HEWLETT, formerly with Mid-Continent Petroleum Corporation in Tulsa, has accepted a position with Standard Oil Company of Venezuela and will be stationed at Carapito as material accountant.

WILLIAM J. CLASSEN, geologist and petroleum engineer, who has been in the employe of Associated Oil Company in California for 10 years, has opened a consulting office in the Mills Building, San Francisco. L. R. Morretti, consulting mining engineer, is associated with him.

D. DALE CONDIT, who has done considerable geological work in various parts of Australia, is now looking over oil possibilities of New Guinea.

GEORGE J. MILBURN, consulting geologist and production engineer of Los Angeles and San Francisco, is on an inspection trip that will include several old fields in the Fault line district and Gulf Coast, Texas. He also will visit the new Sam Fordyce field in Hidalgo County, South Texas, and the East Texas field before attending the American Petroleum Institute at Dallas.

MAJOR E. E. ALDRIN, head of the Aviation Department of Standard Oil Company of New Jersey, who was awarded the decoration of Commendatore of the Crown of Italy on his recent trip abroad, has been elected a Fellow of the Institute of the Aeronautical Sciences of which he is also treasurer.

HARRY W. McCOBB, geologist, formerly with Tropical Oil Company in Colombia, South America, is now with Nederlandsche Koloniale Petroleum Maatschappij, Soengei Gerong, Palembang, Sumatra, N. I.

LOWELL W. SAUNDERS, petroleum engineer and geologist, has resigned his position with Ohio Oil Company and has opened a consulting office in the Haberfelde Building in Bakersfield.

HAROLD REDMON has been appointed chief geologist for National Refining Company, Eldorado, Kansas. He succeeds C. M. Lane.

PAUL STOCK, president, Bighorn Oil & Refining Company, came to Wyoming in 1909 to enter the oil field activities in the Salt Creek oil field. Since that time, he has had various experiences in the Rocky Mountain region, including refining, producing and contracting. In 1912 he drilled a well in Cuba and then went to old Mexico, where he remained for three years. From 1919 to 1923 he operated in Oklahoma, Texas and Louisiana. Because of an abundance of trout fishing and big game hunting in the Rocky Mountain region he preferred that district so he returned. At present he is located at Cody, Wyoming, and Billings, Montana.

PAUL STOCK

PHIL B. REID, drilling superintendent with Richmond Petroleum Company of Mexico, S.A., is on the job supervising drilling of a wildcat well on the concession granted to the company on the Isthmus of Tehauntepec, Vera Cruz, Mexico.

W. M. PECK, former head of the land division of Pure Oil Company in Michigan, has been named the successor of Pliny Del Valle as assistant superintendent of the Michigan production division. Mr. Del Valle recently resigned to accept a position with an oil company in the southwest.

SAM BOWLBY, production engineer for Shell Petroleum Corporation, has been transferred from the Lucien, Oklahoma district, to Pampa, Texas. He is succeeded by George Kinelin.

W. E. RAMSEY, Ramsey Petroleum Corporation, has returned to Oklahoma City after a trip to the west coast.

HILLIS HALL, shop and warehouse employe of Indian Territory Illuminating Oil Company in the Oklahoma City district, was expected to pass a crisis about the middle of the week after being seriously burned. Hall was formerly a star football player at Oklahoma City University and attending physicians say that his wonderful physical condition is likely to pull him through an injury that the average person could not survive.

L. D. WYANT, refinery engineer, has returned to Tulsa after spending several weeks in Canada.

H. E. WRIGHT, affectionately known as "Colonel" to his many friends, was retired from the ranks of the Humble Oil & Refining Company on October 1, 1934. Mr. Wright, who recently received his Twenty-Year Service Button, entered the lease department of the old Humble Oil Company (originally organized by Governor R. S. Sterling and his associates) on March 2, 1914, later becoming affiliated with the present Humble Oil & Refining Company when it was organized in 1918. At the time of his retirement, Mr. Wright was connected with the geologic, lease and scouting department, having assumed his duties with the department in 1924. At a recent meeting of the board of directors of the Humble Club, it was voted to extend Mr. Wright a life membership in the

club. A handsome gold watch, suitably engraved, was presented to Mr. Wright on the occasion of his retirement, by his associates and co-workers.

A. McLEOD, head of the exploration department for Shell Petroleum Corporation in Houston, has returned from his vacation in West Texas.

M. C. WOMACK has been appointed field representative in the Louisiana Gulf Coast for the pipe recovery service of Hall & Lowrey, Inc., Goose Creek, Texas. He will headquarter at Thibodeaux, Louisiana. Womack now has charge of the company's shooting, cutting and spear service in the territory.

DIED

JOSEPH B. ELAM, 56, executive secretary of the Louisiana-Arkansas Division of the Mid-Continent Oil and Gas Association, and regional secretary of Region 5 of the production sub-committee of the Planning and Coordination Committee, died at Shreveport, Louisiana, Friday, October 26. Interment was at Mansfield, Louisiana, his former home, on October 27.

Oldest A. S. M. E. Member Honored

Tulsa. — The American Society of Mechanical Engineers and the Young Engineers Club of Tulsa, met here on Friday evening, October 26, for a short program and special dutch lunch in honor of Lee C. Moore, oldest A.S.M.E. member west of the Mississippi River and possibly the oldest active member in the United States. He has been a member of the society for 32 years. Hollis P. Porter, chairman of the Mid-Continent section, gave a talk on the "Evolution of the Petroleum Engineer" with "Rebuttal" by H. F. Brindel.

Petroleum Transport Association Holds Meeting

Bartlesville, Oklahoma.—The Petroleum Motor Transport Association of Oklahoma held its regular monthly meeting here on the afternoon and evening of October 26, in what was announced the "mystery" meeting of the year. Twenty-five members of the association left Tulsa at 12:45 P.M. and arrived at the Empire garage here about 2:30 for an inspection and discussion of motor transport equipment. Subsequently the party of 28, including three Bartlesville members of the association, journeyed to the cabin of Guy Wheatley, about 15 miles from Bartlesville, where the remainder of the program and a dinner were held. G. L. Wheatley, the Empire Companies; C. J. Martin, Phillips Petroleum Company; and H. D. Patridge, Indian Territory Illuminating Oil Company, the Bartlesville members of the association, acted as hosts and were acclaimed super-successful in the planning and execution of an excellent program and entertainment.

Dallas Petroleum Club Is New Organization

Dallas, Texas.—Organization of the Dallas Petroleum Club to install and operate permanent quarters in the Baker Hotel was completed October 24 at a luncheon attended by leading oil men and representatives of supply companies and other concerns closely affiliated with the industry. Club rooms are to be completed prior to the November convention of the American Petroleum Institute.

D. A. LITTLE

D. A. Little, president of Magnolia Petroleum Company, was elected president of the social body. R. S. McFarland, vice president of Texas Seaboard Oil Company was chosen vice president, while Harry J. Morlang, an official of Oil Well Supply Company, is to be secretary and treasurer.

Houston Production Branch Of A. P. I. to Organize

Houston.—Organization of the Houston chapter of the Southwestern district of the Division of Production of the American Petroleum Institute is to be consummated at a meeting to be held at the Rice Hotel, Houston, on October 30 at 8 p. m., according to W. V. Vietti, The Texas Company, who is secretary-treasurer of the district chapter. Production and drilling men situated within a 100-mile radius of Houston are asked to gather to help formulate the first chapter in the Gulf Coast region. An election of officers will be held.

Attendance at the meeting will not be limited to members of the American Petroleum Institute.

Tender Court Appeal Hearing Is Held

Austin, Texas.—The Third Court of Civil Appeals at Austin last week heard arguments on the appeal of the railroad commission from an order issued by District Judge E. M. Dodson enjoining the order of the commission requiring tenders on processed oil moved from the East Texas field.

Although the statutes do not specifically allow the commission to require tenders on products, provision is made for tenders on crude oil. In their argument the state contended that processed crude was included by implication, and that illegally produced oil could not be legalized by being moved through a refinery.

Attorneys for the refiners, however, argued that the commission orders must be based upon some specific power set out in the statutes, or it would be invalid. They pointed out that the last order of the commission which was enjoined, was issued on August 29, after several suits had been filed enjoining refiners from violation.

They protested that this order, prepared secretly and not made public until after the suits were filed, included the same subject matter as previous orders which the court had enjoined, and was therefore invalid.

Assistant Attorney General A. R. Stout was aided by attorneys Maurice Cheek and O'Brien Stevens. Fred Upchurch and Judge Amos Felts appeared for the refiners. The case was taken under advisement by the court after the arguments were completed.

Los Angeles. — Taxes were paid on 106,319,335 gallons of gasoline in California during September this year, compared with a total tax paid gallonage of 111,750,937 in the same month in 1933.

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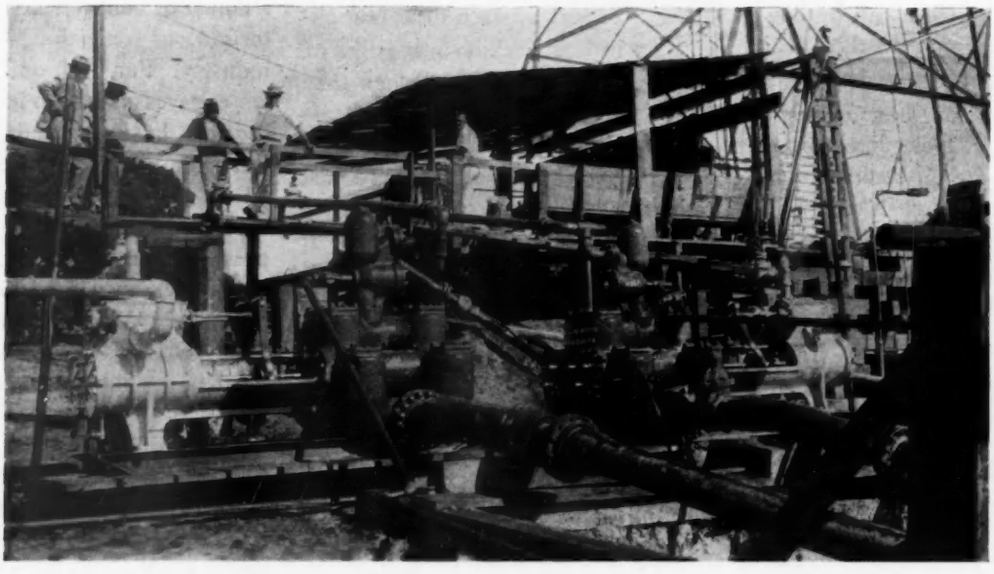

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These facts have been proven hundreds of times in scores of Gulf Coast fields, where Wilson-Snyder Pumps are the ruling favorite. In deep or shallow wells, in every kind of formation, in new or proven fields Wilson-Snyder pumps are constantly performing in a manner to satisfy the demands of the most exacting task master.

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American Cable Tru-Lay *Pre-formed* Wire Rope;
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BRANCHES
Barbers Hill, Kilgore, Greta, Gladewater and Tomball, Texas; Lake Charles, Shreveport and Scott, La.

Paul Peebles, *Reviewing East Texas Situation* Says Lawyers Taking Oil

My dear Cleopatra:

Cleo, honey, I know you think I have treated you shameful mean by not writing to you in so long, but you will understand honey when I tell you that I am busy on account of I am going to night law school and us lawyers does not do nothing without putting it off as long as we can except we do get in a hurry when we want an injunction against the commission. Then of course if it looks like maybe the price is going down and ruin the new deal the lawyers up in Washington can fly down to Texas so they can do their waiting a little closer to the battle.

Honey the reason I am taking up the law is that it looks like it is the only future in the oil business. And anyway I learned english so good in night school that I thinks it is a good idea if I start again learning the latin words they talk in court cases. Then anyway I have been a man of science and a inventor so long that I need to get set for fighting for my rights against infringements. As you know, it is a whole passel of ideas which I made and told you about a long time ago which a bunch of fellows has taken up and are making money out of them now. Do you remember my idea for drilling another man's lease from a distance? Well even now a bunch of foreign guys is over here working my idea about testing formations which I started way back at Spindletop tasting sour water. When I am *al barre* I will show them. Them two funny words, honey, is lawyer talk for at the bar and it does not mean in no beer joint.

What I mean about the future in the oil business being in the law department is that the further it goes the worse it gets. I guess you aint heard about the NRA having any alphabet to help lawyers like it does farmers. And it is a good reason. Every time anybody gets any help from them abc's they have to have a lawyer to help them. In the case of the oil business they have to have a gang of lawyers to keep the government from helping them too much. If the oil companies had not hired them more lawyers they would have been all covered up by now with the mimeograph sheets they send out from Washington. 'Seems like it is a stud game without nobody supposed to have a hole card and they change the rules every time they deal a card.

I was getting along pretty good being a expert adviser to a few clients up in East Texas on matters of production and taxes but when they got so good they they could sell gasoline made out of dollar crude for a dollar a barrel for the gasoline, I just quit. I admit I am smart, but they are getting too smart for me. It even got to where a couple of outfits posted a price of 60 cents, and the joke of that was that it got in the newspapers that the price had been cut. And along about that time Col. Thompson got so excited that he hollers for Hon. Ickes to do something about it. It aint been but a little while since he was calling Ickes names and hollering about state's rights. But only the legislature is in session now and no move on for the minute to enact a new commission. What's got Ickes and Thompson and some more of the boys so excited is that *el aceite caliente* (that's Mex, honey) got so hot that they started using bubble towers for separators and put out the fires under their teapots up in East Texas. With no crude cost, no refining cost and no tax, some of the boys are making a little money, because all the expense they have is a lawyer to get them an injunction once in awhile.

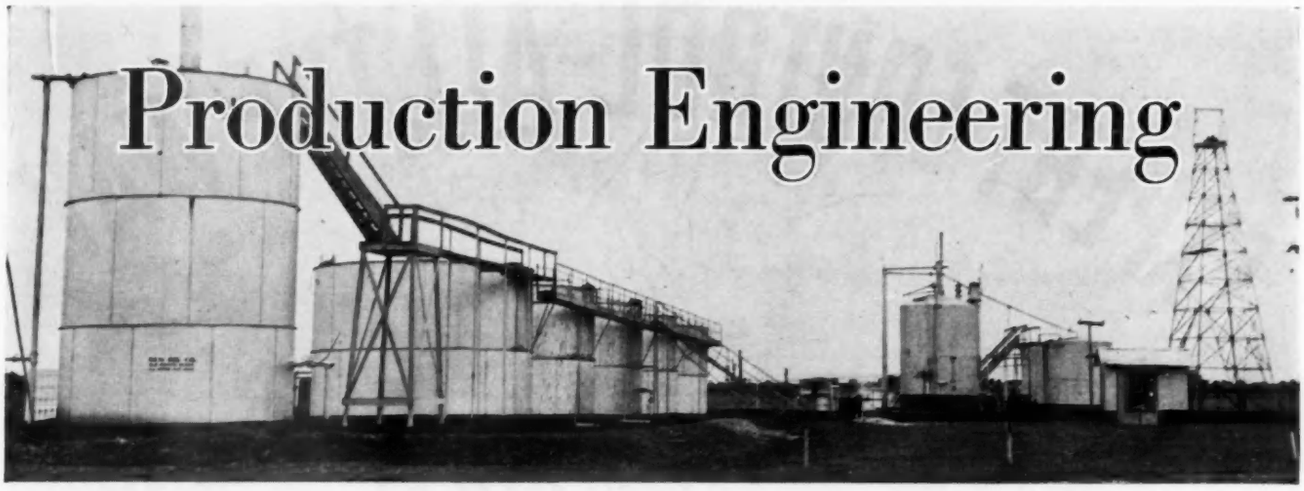
You understand, honey, that I am not quitting the oil business cold. In fact you could not quit it cold now while it is so hot. I am just moving myself around to where I can do myself more good. So I am keeping in touch with things and guess I will hitch hike up to Dallas in a couple of weeks to the API. I will be busy on account of it is a three-ring circus in two hotels this time with a lot of side shows. It will be a few old fashioned oil men that will gang up and talk about methods and materials, but the main gang will be talking about Ickes and the PC committee. I guess you remember what a PC was when we was kids—well they don't seem like they are that any more.

At the same time the API gets going in Dallas and running across the street on the bridge they say they are going to build between the hotels, a bunch of congressmen will be there to find out some things about the oil industry. Far back as I can remember congress has been inquiring about the oil business and if they have learned anything yet they ain't showed it. All they know is that oil is a natural resource, a necessity to be preserved and a luxury to be taxed. And how can a congressman understand it? Who can explain how a business that has good volume in hard times like we have let a bunch of small timers in East Texas gum up the works of a ten billion dollar industry from Main to California? Two cargoes of gasoline can break the market on the East Coast while total stocks of all oils are being reduced. If you can explain that you will know how it is that a few country lawyers can get in the hair of the legal department of the "brain trust".

And some more about me going to be a lawyer. Seems like the bar association says they must purge their profession, so they are taking oil. And what I mean they are taking oil like Grant took Richmond, only they don't look like they want to take all winter. You remember I was a geologist and then an engineer when they was in fashion—now its lawyers.

You will be proud when you hear them calling me Judge Peebles.

Your loving Paul.



The Trend in Petroleum Technology

STANLEY HEROLD

WE observe at wells the rates of production and the pressures; we tabulate by weeks or months the total accumulated production to date. Where curves are required the necessary points are plotted on paper and connected by lines. Out in the field the wells are responding to our manipulations, and the reservoirs feeding them are behaving in accordance with Nature's laws of fluid motion. We can not go far wrong in our curves, for the wells are doing exactly what they must do under all the circumstances of production. We are in fact warranted in risking an extension of the curves toward values to be obtained in the future, knowing very well that we need not further manipulate the wells should we not wish to, and that Nature can not change her laws should she want to.

In past years our curves were merely an incidental aid in keeping track of well performance. Little heed was given them in our plans for field development, recovery and ultimate production.

CURVES might well have remained incidental, if they could not reveal to us the mechanics of the producing reservoir. We now admit they clearly do that. On the Pacific and Gulf Coasts our curves indicate one set of mechanics pertaining to hydraulic and volumetric controls, while in the Mid-Continent and Eastern fields they indicate another set pertaining to capillary control.

To attain our present attitude we first had to distinguish the behavior of the wells and note the corresponding class of curves belonging to them. Our present and future task is the reverse of that problem, namely, we must distinguish the behavior of the curves and note the corresponding class of wells and reservoirs to which they belong.

THE field consequences of the two sets of mechanics are easily recognized. Examples follow.

On the Pacific and Gulf Coasts we experience edge water encroachment upon the pools. In the Mid-Continent and Eastern fields there is no such encroachment. The edge water at Cushing today is exactly where it was in 1915, although some 400 millions of barrels of oil have been produced from that field. Again, the edge water at Bradford today is exactly where it was in the 1870's, although some 300 millions of barrels of oil have been produced from that field. And certainly at both places much pore space has been drained of free gas which occurred originally with the oil.

On the Pacific and Gulf Coasts any amount of gas pumped into wells will not raise the closed-in pressure at those wells. In the Mid-Continent and Eastern fields every 1,000 cubic feet pumped in will show an increase in the closed-in pressure. We are assuming in both cases that no gas is produced at adjoining wells during the time.

ON the Pacific and Gulf Coasts an increase in the effective working pressure amounting to 50 percent at the bottom of a hole results in an increase in the rate of production amounting to 22.5 percent. In the Mid-Continent and Eastern fields the same change in the working pressure results in an increase in the rate amounting to 84.5 percent.

With a decrease in the working pressure amounting to 50 percent the rates decrease by 30.3 and 64.7 percent, that is, to 70.7 and 35.3 percent, respectively. The latter wells always respond to any kind of manipulation more sensitively, or to a greater degree, than the former wells.

These illustrations are selected from many; these are a few with which every geologist and engineer having work to do with producing wells should be familiar. A complete analysis of the two sets of curves and mechanics shows wide differences in the corresponding solution of problems concerned with well spacing, percentage recovery and ultimate production.

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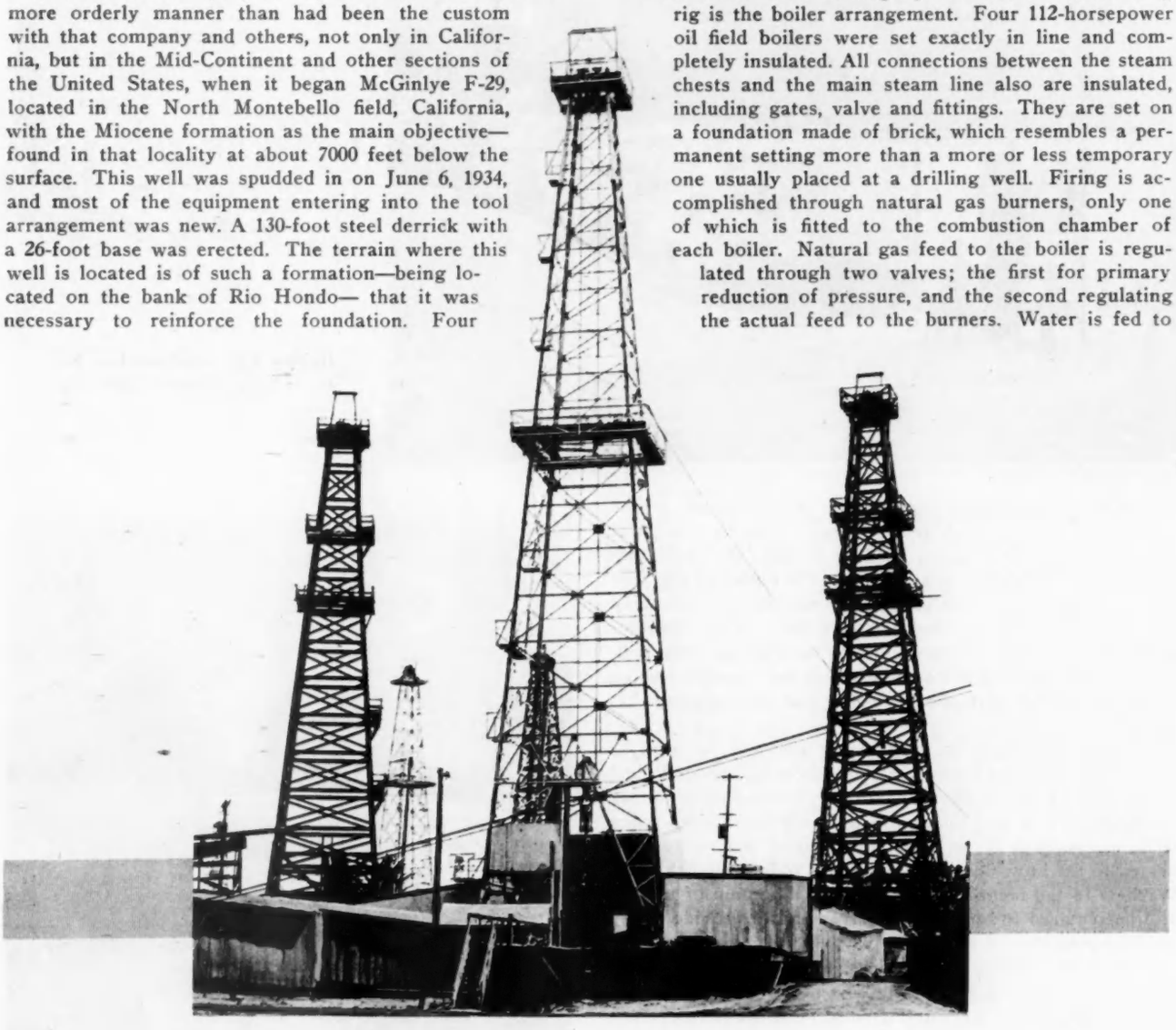
An Orderly Drilling Rig *Hookup Includes Interesting* Boiler Arrangement

JOHN C. ALBRIGHT

MORE and more attention is being given to orderly arrangement of the various pieces of drilling equipment. Until recently it mattered little whether the boilers, for instance, were set in exact line and upon similar foundations. In more instances than otherwise they were set-up as near the rig as possible during the first part of the drilling operation, and when the well was about to be brought in it was necessary to move the battery to a location that provided a factor of safety if quantities of gas were produced.

Fullerton Oil Company arranged some of its units in a more orderly manner than had been the custom with that company and others, not only in California, but in the Mid-Continent and other sections of the United States, when it began McGinlye F-29, located in the North Montebello field, California, with the Miocene formation as the main objective—found in that locality at about 7000 feet below the surface. This well was spudded in on June 6, 1934, and most of the equipment entering into the tool arrangement was new. A 130-foot steel derrick with a 26-foot base was erected. The terrain where this well is located is of such a formation—being located on the bank of Rio Hondo— that it was necessary to reinforce the foundation. Four strings of pipe were driven into the ground to a depth of about 30 feet under each derrick leg foundation, and four were driven a like distance in the cellar. A string of these piles also was driven under the heavy beams supporting the derrick floor, draw works and rotary table. The whole frame was tied together by pouring a heavy concrete mat, reinforced by criss-crossing with sucker rods. When completed, the entire foundation, cellar and ground floor presented a monolithic unit, substantial enough to support the derrick, drilling tools and casing clamps.

One of the most interesting layouts found at this drilling rig is the boiler arrangement. Four 112-horsepower oil field boilers were set exactly in line and completely insulated. All connections between the steam chests and the main steam line also are insulated, including gates, valve and fittings. They are set on a foundation made of brick, which resembles a permanent setting more than a more or less temporary one usually placed at a drilling well. Firing is accomplished through natural gas burners, only one of which is fitted to the combustion chamber of each boiler. Natural gas feed to the boiler is regulated through two valves; the first for primary reduction of pressure, and the second regulating the actual feed to the burners. Water is fed to



Fullerton Oil Company's F-29, North Montebello, showing 130-foot derrick and 26-foot base

the boilers through individual water-level regulators, and the line leads over the top of the battery instead of under them.

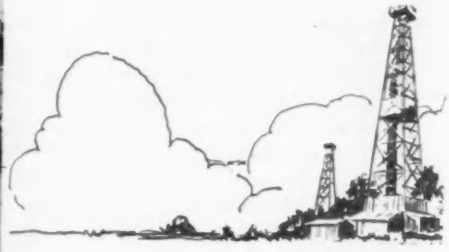
The boiler battery is set about 200 yards from the rig, and a six-inch main steam line was laid from it to the drilling engine, the auxiliary draw works and the mud pumps. It was placed on the surface of the ground instead of upon supporting stanchions because very little rain fall occurs in this locality during the summer and early fall months. It is insulated completely and covered with metal protecting sheathing so that the insulation will not be disturbed. Individual lines lead diagonally from the steam chests of each boiler to the header, placed on brick supporting piers, and then enter a superheater.

The pressure on the boilers is carried at 225 pounds. ers. This line is secured to stanchions, the lower ends of which are embedded in concrete to obtain stability and rigid performance.

The object in assembling the equipment and placing it in the manner followed at this rig was not from show or effect on the imagination of passersby, but because the company desired service, and an ultimate low cost of drilling. The arrangement of the tools and accessories also maintains a better morale among the employees, who strive to maintain a clean floor and a well working string of tools.

A roller-bearing high-deck crown block was placed on top of the derrick, through which a 1⅛-inch drilling line was placed, carrying a four-sheave roller-bearing traveling block. A special hook having a capacity of 300 tons was attached to the block and also equipped with new type ele-

Left: The boiler arrangement has a neat and orderly appearance



Below: The insulated line between superheater and rig.

The steam at this rig is superheated to 485 degrees at the outlet, and only loses about 15 degrees between that point and the steam chest of the drilling engine. An indicating thermometer is placed in a well near the outlet of the superheater, and a recorder is set near the driller so that he can always know what kind of steam he is using. In combination with the recorder and the drilling control indicator the driller always knows whether he is actually using more steam, or that the pressure and temperature has fallen.

To make the boiler setting more attractive, as well as safe for the fireman, steps were built from the ground level to the top of the brick foundations. Instead of requiring the fireman to crawl under the waist of the boilers when it is necessary to blow them down, hand rods were connected to the blow-down valves. These rods extend through brackets to the front of each unit so a minimum of trouble will be required to operate the valves and to provide safety to the operator.

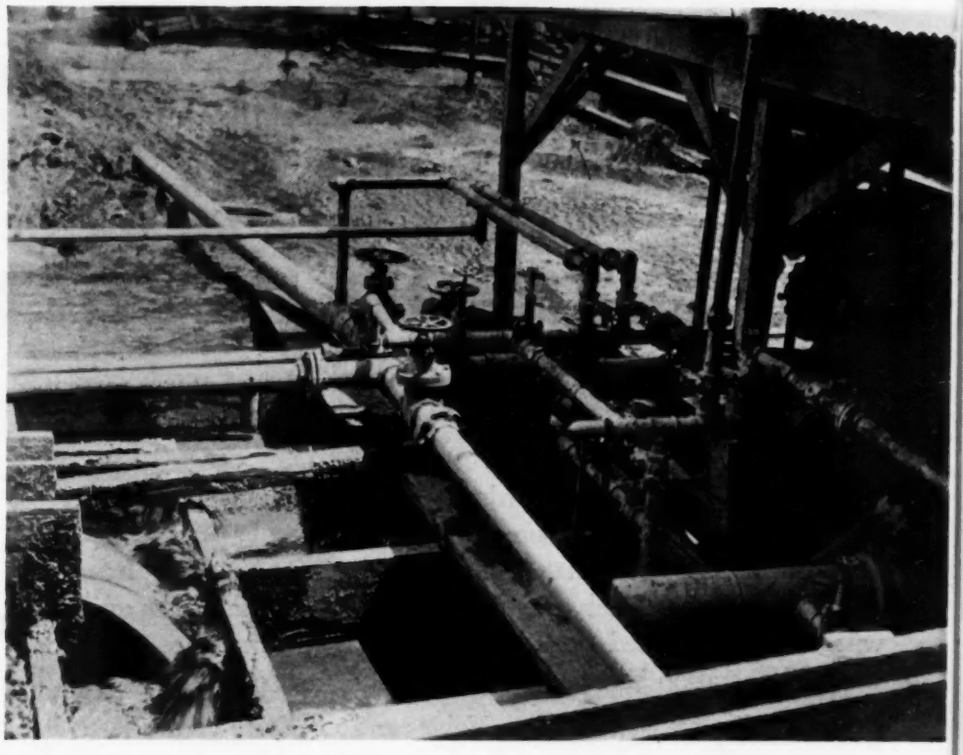
To prevent fouling of guy lines, each stack, which have identical heights, is supported in a vertical position by braces. The upper end of them are fastened to the stack by circular clamps, while the lower ends are secured to a supporting pipe line running across the front of the boil-

vators. The draw works is set on skids for the immediate foundation, and then tied down to the sub-structure and monolithic foundation, instead of being braced to the girts and legs.

In maintaining circulation, two 14 x 7¼-inch mud pumps are being used, running in multiple and located near the derrick; the discharge pipe being fitted with lubricated valves. To maintain an uninterrupted service of both the pumps and lubricated stops, the operators on duty are required to see that each plug is filled with the proper lubricant each eight hours, and the pump rods are turned as often. Placards are posted calling the employees attention to these things, and accompanying the placards is a sheet showing the kind of lubricant to use on each stop. The discharge line from the mud pumps to the high-pressure drilling hose is as short as possible to prevent undue line friction.

Returns pass through a mud screen, which sorts out the gravel and lumps of cutting coming through with the circulation, permitting the drilling fluid to enter the slush pit where the finer particles settle to the bottom. The mud passes directly to a pump where both pumps take suction. This pump is divided into two sections, the whole being constructed of planking, so that each pump takes suction of the drilling fluid from its own individual compartment. The idea back of this construction was conceived because in this section of the country different weights of drilling fluid is needed at different depths and when passing through particular formations. Division between the two pumps is made so that it may be closed or opened upon a moment's notice.

Right: The divided sump used for special mud mixtures



Below: View of the draw-works and drilling control board

The driller on duty is aware of all conditions surrounding the drilling operations by watching an indicating recorder which is located near the controls. Through some of the formations penetrated, the speed of the rotary table is maintained at 175 revolutions per minute, always indicated and recorded on this instrument. This higher speed than usual only is used when passing through heavy beds of conglomerate, carrying pebbles of indiscriminate size, and this speed not only obtains faster drilling, but has a tendency to keep the hole straighter, according to the operators.

A packing program has been worked out by the company engineers, and to assist the drillers and others connected with the rig, a sheet was made showing the proper packing indicated by number, so that slush pump packing will not be inserted in the glands of the drilling engine. Each package of packing not only has its number, but the designating number is also placed on the container showing where it is to be used. By using this method, the company has found that not only does the packing last much longer while in service, but the ultimate repair bills have dropped accordingly.

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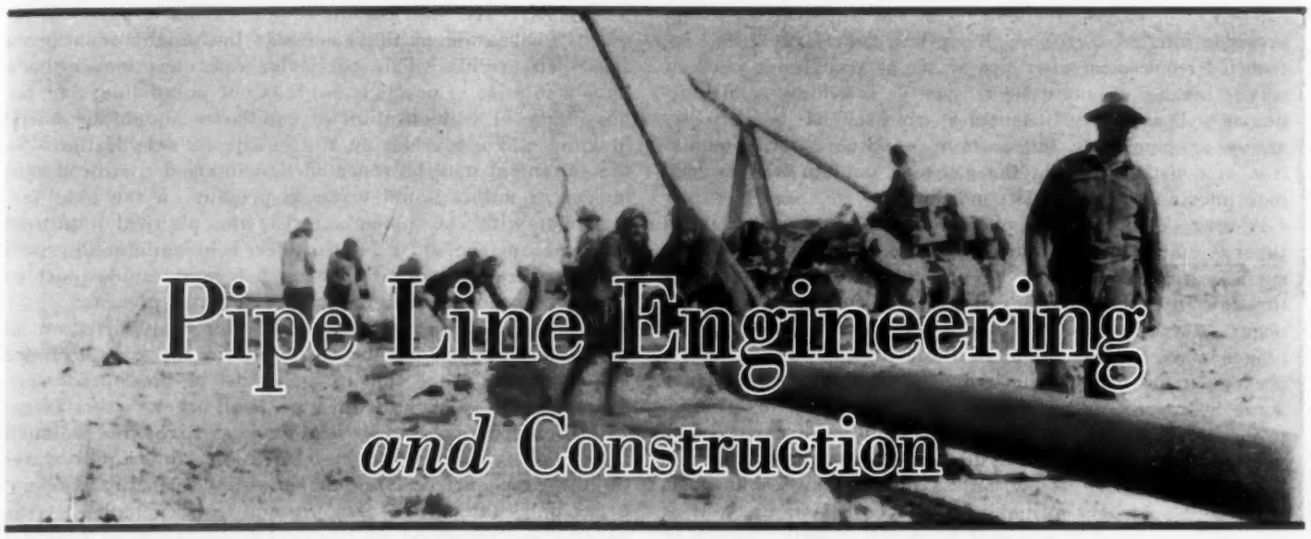

Internal Corrosion of Natural Gas Pipe Lines

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THE importance of internal corrosion of natural gas transmission lines has possibly been under-estimated in many cases. Natural gas lines are, as a rule, long lines operating under high pressures and traversing a wide variety of soils. Many of these lines have been laid without adequate protection against external corrosion and in corrosive soils. In some lines failure has been due to a combination of internal corrosion, but the external corrosion has been so much more in evidence that the internal corrosion has often been neglected. But when the rapid external corrosion has been reduced or eliminated by known methods the slower internal corrosion becomes more apparent. In the past, and even now, the emphasis has properly been on the elimination of external corrosion of pipe lines, and tremendous progress has been made toward effecting a remedy. In the future it is possible that the question of elimination of internal corrosion will receive increasing attention. The Pacific Coast Gas Association has already formed a committee to study the problem of internal corrosion of natural gas transmission lines.[1] It is certain that other gas companies are giving the subject some study, although not much has been published. Lone Star Gas Company has been actively concerned about the internal corrosion of its lines since 1925.

THE distribution of fuel gas has been accompanied with difficulties ever since the installation of the first fuel gas line. Corrosion of the metal of the pipe lines may be listed as one of the chief difficulties in the distribution of either manufactured or natural gas. This corrosion has occurred both on the inside and the outside of the pipe. Many valuable articles and reports have been published on the general subject of pipe line corrosion, its causes and prevention. But corrosion still occurs, and the gas industry must still pay the bill for the tremendous annual damage from this cause. It is probable that this bill will be reduced in the future as our knowledge of corrosion, and means for its prevention, is increased. It is the purpose of this paper to assemble, in a brief way, the present available knowledge of the causes and effects of internal corrosion in natural gas transmission lines.

Presented before the Natural Gas Department of the American Gas Association, Atlantic City, October 29.

The harmful effects of internal corrosion are rather varied. If the corrosion causes severe pitting of the pipe metal, leaks will develop in the line, causing loss of gas and the expense of applying leak clamps to the line. If the corrosion removes a channel of metal from the bottom of the pipe, "blow-outs" of the line will occur, accompanied by obvious hazards to life and property. If the internal pipe surface is roughened by corrosion the capacity of the line will be materially reduced. A recent article has indicated a very definite increase of the friction factor of a natural gas transmission line that occurred as corrosion proceeded.[2] Also, the products of corrosion occupy more volume than the uncorroded iron and may reduce the effective cross-sectional area of the pipe, thereby reducing the carrying capacity of the pipe line.

We are first interested in the conditions that must be present to cause internal corrosion. There are many natural gas transmission lines that have been

in service for 20 years or longer that show no evidence of appreciable internal corrosion. But other natural gas lines have required replacement after five or six or even fewer years of service because of internal corrosion. It is evident from practice as well as theory that natural gas itself has no corrosive action on pipe lines, but certain constituents or combination of constituents that the gas may contain will corrode pipe lines under favorable conditions.

A very general theory of corrosion, the electrochemical theory, requires that liquid water be present on the pipe surface and that oxygen be present in the gas passing through the pipe, before serious corrosion or rusting can occur. According to this theory the atoms of iron on the pipe surface replace some of the hydrogen ions that are present in the water. The hydrogen ions that are replaced form hydrogen gas on the pipe surface. For corrosion to proceed, this hydrogen gas must be removed from the pipe surface. Removal of this hydrogen gas in the form of gas bubbles is ordinarily slow, unless the corrosive solution is extremely acid. In normal pipe line corrosion the film of gaseous hydrogen is removed by reaction with oxygen to form water. The oxygen required for this reaction is absorbed from the gas. So the rate of corrosion is largely determined by the rate at which the hydrogen is removed from the pipe surface. The rate of corrosion may be accelerated by the presence of high concentrations of hydrogen ions in the corrosive solution, caused by the presence of acid in the solution, or by the presence of ionized salts in the solution.[8]

Water Must Be Present

Both practice and theory agree that liquid water must be present in the pipe line for corrosion to occur, unless the pipe line is operating at temperatures that are very much in excess of normal operating temperatures. Corrosion of iron by hydrogen sulphide in the absence of liquid water is not appreciable until the iron reaches a temperature above 400° F.[4,5,6] At temperatures within the range of pipe line operating temperatures, compounds that are normally corrosive when associated with liquid water become non-corrosive when absolutely dry. For example, concentrated sulphuric acid, free from water, may be shipped in ordinary steel tank cars. Also, pure, dry hydrogen sulphide gas may be stored and shipped under pressure in ordinary steel cylinders. However, it is somewhat confusing to find that iron oxide boxes used for the removal of hydrogen sulphide from fuel gas have been found to operate most efficiently when the inlet gas has a relative humidity of somewhat less than 100 and as low as 50.[12] Under these conditions of humidity it is to be expected that no liquid water would be present on the surface of the iron oxide. The iron oxide box is essentially a place provided in the gas distribution system for corrosion to occur so that the raw gas will exert all of its corrosive action on the iron oxide and will not corrode the iron distribution lines. It is quite possible that the surface of the iron oxide used in the boxes is actually covered with liquid water even though the gas passing over the oxide is not saturated with water vapor. This may be explained by assuming absorption of water vapor in the colloidal pores of the oxide to form liquid water in these pores. It is conceivable that a similar phenomena could also occur in natural gas transmission lines. Assume, for example, that a particular line has been carrying natural gas containing some hydrogen sulphide, free oxygen, and sufficient water vapor to cause condensation in the line. Consequently, corrosion of the line has been occurring. It is possible that this corrosion may cause the formation of capillaries in the pipe metal so that even if the gas entering the line were dehydrated sufficiently to prevent condensation of water in a non-capillary iron pipe, that condensation in the capillaries and consequently corrosion of the particular line might occur even after dehydration. This particular case has never been known to arise in practice, but it is not impossible; and the possibility of condensation in capillaries should be borne in mind when considering the effects of dehydration. So the statement may be repeated that internal corrosion cannot occur unless liquid water is present on the pipe surface, but with the addendum that the physical nature of the pipe surface must be considered in conjunction with the moisture content of the gas before it can be decided whether or not liquid moisture is actually present.

In all reported cases of serious internal corrosion of pipe lines, oxygen has been present in the gas. Practice has clearly indicated that oxygen must be present for serious corrosion to occur. And even if all other factors favorable for corrosion are present, such as high line pressure, high hydrogen sulphide concentration, and liquid water on the pipe surface, serious corrosion probably will not occur unless oxygen is also present. For example, a large natural gas transmission line is taking gas from pressure wells in New Mexico. The hydrogen sulphide content of the raw gas is in excess of 200 grains per 100 cubic feet and is reduced to about 10 grains per 100 cubic feet of gas by scrubbing with soda ash solution. This scrubbing saturates the gas with water vapor at line pressure and at a temperature normally in excess of line temperature, and consequently will cause condensation to occur in the line. But the gas does not contain any free oxygen and internal corrosion of the line is reported to have been negligible since its installation some six years ago. It is certain that corrosion of this line is much less serious than it would have been if traces of oxygen were present in the gas. However, some dust is present in the gas leaving the line, indicating the possibility of some corrosion. In this connection, Speller showed appreciable corrosion rates for steel when treated with wet hydrogen sulphide in the absence of air or oxygen.[7] On the other hand, the P.C.G.A. committee have concluded that corrosion by hydrogen sulphide will be very much reduced if the oxygen cencentration of the gas is reduced, or eliminated.[1]

Detecting Free Oxygen

In this connection, the presence or absence of free oxygen in gas may be shown by bubbling the gas for an extended period of time through an alkaline pyrogallol solution. The solution should be prepared in an atmosphere free of oxygen, so that it is as colorless as possible. If the gas contains free oxygen, the solution will darken as the gas bubbles through it.

In cases where natural gas is free of oxygen but contains appreciable concentrations of hydrogen sulphide (more than two grains of hydrogen sulphide per 100 cubic feet) trouble may be experienced with corrosion of copper and brass fittings on domestic appliances, even though no trouble is experienced in the iron distribution lines. This is particularly noticeable in brass or copper pilots as used on domestic water heaters, ranges, etc. Hydrogen sulphide has a very decided affinity for copper at elevated temperatures. In fact, at temperatures above 240° F. a polished strip of copper will be instantly discolored by natural gas containing four to five grains of hydrogen sulphide per 100 feet. The product of the reaction is a black or brown copper sulphide powder that looks very much like an accumulation of pipe line dust. The dust has been found to form rapidly enough to stop up water heater pilots in a period of a few weeks when using natural gas containing about five grains of hydrogen sulphide per 100 feet. This trouble has been experienced by Texas Cities Gas Company in El Paso, Texas, and by Southern Counties Gas Company in Los Angeles.[8] Similar conditions in Salt Lake City, Utah,

have also been reported; however, this is a particular case of corrosion very different in nature from the corrosion of transmission lines. In this case, oxygen and liquid water are both absent.

The exact role of oxygen in accelerating hydrogen sulphide corrosion of pipe lines is not definitely known. It is possible that oxygen affects the nature of the scale formed by corrosion so as to permit further corrosion as well as causing depolarization.[9] In the absence of oxygen a dense, black, adherent scale is found inside the pipe, composed largely of iron sulphide, that protects the uncorroded metal from the further action of hydrogen sulphide. In the presence of oxygen the scale is not uniformly black, but appears as more of a flaky, brown-black scale, or as nodules on the pipe surface. This scale is much more porous and less adherent than the scale formed in the absence of oxygen and apparently offers much less protection to the underlying layer of uncorroded metal. The color of the scale appears to become more black and less brown as the partial pressure of free oxygen in the gas decreases.

Hydrogen sulphide and carbon dioxide are the acid constituents most commonly found in natural gas. Carbonic acid is an extremely weak acid, and probably has but little effect on pipe line corrosion.[10 11 33]

Hydrogen sulphide is also a very weak acid. However, in the presence of liquid water and oxygen it will react readily with iron or iron oxides. A very large percentage of the internal corrosion of natural gas transmission lines has been shown to occur in the presence of hydrogen sulphide, free oxygen, liquid water, and high pressure.[1 13] Also, serious corrosion may occur when one or all of these factors are present in extremely slight concentrations. In fact, corrosion of copper has been reported when exposed to a gas containing less than 0.01 grains of hydrogen sulphide per 100 feet, and less than 0.1 percent oxygen, with a gas pressure of from 375 to 400 pounds per square inch gauge.[1] Devine, Wilhelm and Schmidt have attempted to correlate the quantitative effects of these various factors on corrosion rates of pipe steel.[13] They found the rate of corrosion to increase directly as the absolute pressure with other factors held constant. Corrosion also increased directly as the hydrogen sulphide content of the gas. These authors found the oxygen/hydrogen sulphide ratio to be more useful in considering the effect of oxygen on corrosion rate than the absolute concentration of oxygen.[34] The corrosion rate was found to increase with increase in the oxygen/hydrogen sulphide ratio, until the volume of oxygen present was 114 times the volume of hydrogen sulphide present. Any further increase in the oxygen content appeared to be without much effect on the corrosion rate. It might be pointed out that this ratio of 114 volumes of oxygen per one volume of hydrogen sulphide will be obtained with a very low concentration of oxygen present when the concentration of hydrogen sulphide is also low. For example, a gas containing 0.01 grains hydrogen sulphide per 100 feet would, require $\frac{0.10}{630} \times 114 =$ 0.0181% by volume of oxygen for the desired oxygen/hydrogen sulphide ratio. This small concentration of oxygen would be impossible of detection by ordinary analytical methods.

The above authors report the effect of amount of liquid water present is more obscure, but probably maximum rates occur with minimum thickness of water film on metal surfaces. However, several observations of pipe lines that have been corroded by hydrogen sulphide under these conditions show maximum corrosion in the bottom of the pipe where water has been flowing or standing and the liquid film is of maximum thickness.[12] Possibly, the physical motion of the water has some effect in these cases.

From the available data on hydrogen sulphide corrosion, it is evident that the combination of hydrogen sulphide, free oxygen, liquid water, and high operating pressures are necessary before the corrosion will be severe. The corrosion rate in steel pipe may be assumed to be roughly proportional to the partial pressure of hydrogen sulphide in the gas, so long as liquid water is present and the concentration of oxygen is more than 100 times the concentration of hydrogen sulphide. The available data is insufficient to permit any accurate estimation of the rate of corrosion that will occur with a given partial pressure of hydrogen sulphide in the gas. The data presented by Devine, Wilhelm and Schmidt[13] have been compared with the observed results of corrosion of a natural gas transmission line. This line has been operating under pressures of from 200 to 400 pounds per square inch. The gas entering the line has contained about 1.5 percent of oxygen by volume, and about 1.3 grains of hydrogen sulphide per 100 cubic feet. Moisture has been present in the line at all times. The above authors indicate a pipe line life of about five years under these conditions. The actual life of the first 1.5 miles of line was about eight years. However, several individual joints of pipe in this line required replacement after about four years of service.

The probable effects of high-line pressure on normal pipe line corrosion may be clarified by considering the film of liquid moisture that is present on the pipe surface. Assume that a new, clean steel pipe is completely covered with a film of water. This pipe, when placed in service, is subject to the corrosive action of the water film on its surface and is not subject to the corrosive action of the gas that may be inside the pipe, except as the gas modifies the nature of the water in the film. At equilibrium, the partial pressure of any constituent of the gas dissolved in the water must be equal to the partial pressure of the same constituent in the gas. Hence, under this hypothesis, gas containing 10 grains of hydrogen sulphide per 100 cubic feet and transmitted at atmospheric pressure should produce the same concentration of hydrogen sulphide in the liquid film as the same gas containing one grain of hydrogen sulphide per 100 cubic feet under an absolute pressure of 10 atmospheres, and the corrosion rates of the pipe in the two cases should be the same. The concept of film resistances can probably be applied advantageously in further studies of pipe line corrosion.

Although most of the serious cases of internal corrosion of pipe lines that have been reported have been caused by hydrogen sulphide, other corrosive agents may cause trouble in some localized cases. For example, in one specific case, iron chloride was found to be present in drip liquor from a line. The wells in this district were being treated with hydrochloric acid at the time, so this treatment was suspected of causing the trouble. Further investigation showed the wells were not responsible but that water used in a gas cleaner was the source of the chlorides. The gas carried some entrained water out of the cleaner, and the water supplied to the cleaner contained large concentrations of chlorides, so the chlorides entered the line in this way.

In order to stabilize the calorific value of gas for distribution where the raw gas varies through a wide range of heat value, some gas companies add inert gas composed mainly of nitrogen. If the inert gas is prepared by burning natural gas in air to produce a gas composed largely of nitrogen and carbon dioxide, serious line corrosion will occur, due to the formation of oxides of nitrogen in the gas during combustion. These oxides of nitrogen are formed in all normal natural gas flames, but in normal practice they have no corrosive action. However, if the products of combustion are compressed to pressures considerably above atmospheric pressure and then cooled to atmospheric temperature, the corrosive action of the oxides of nitrogen becomes very evident due to the formation of nitric acid under these conditions.

If natural gas containing low concentrations of oxygen and

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appreciable concentrations of heavier hydrocarbons is compressed through several compressions in a single stage compressor, organic acids (formic, acetic, etc.) may be formed that will cause serious corrosion. However, a very high compression ratio is required and such a high compression ratio is not good economy.

Corrosion of pipe lines may usually be detected by analyses of drip liquors obtained from the lines. As a rule, the corrosive constituents present in very small concentrations in the gas are present in the drip liquors in much greater concentrations and consequently are more easily determined. A rough idea of the minimum corrosion occurring in the line may be obtained from a knowledge of the volume of drip liquor obtained from the line per unit time and the concentration of iron in the drip liquor. However, in the case of hydrogen sulphide corrosion, only about 50 percent or less of the corroded iron is usually removed from the line in the drip liquors. Also, drip liquors from lines containing low concentrations of hydrogen sulphide and an appreciable concentration of oxygen will contain most of the sulphur combined as sulphate rather than as sulphide.

Analysis of the discharge gas for dust may also indicate the presence of internal corrosion, though this method is far less reliable than the drip liquor analysis. But when dust-free gas enters the line, and gas laden with iron-bearing dust leaves the line, it is very probable that internal corrosion is occurring.

As a rule, dust caused by corrosion has been found to consist predominately of various oxides of iron, with only small concentration of the corroding agent present.[11] This has lead to the development of a theory regarding the repeated attack of the pipe by the corrosive agent in the gas. For example, the corrosive agent reacts with metal in the upstream end of the pipe to form a soluble iron compound. Oxidation and/or hydrolysis of this compound then occurs, precipitating iron hydroxide and freeing the corrosive agent so that it may attack more metal.

The actual mechanism of corrosion is of interest and should be studied as completely as possible. Theories to account for the mechanism of various types of corrosion have been proposed by various investigators. Some of these theories are very interesting, but as none of them seems to have any direct practical application in their present form, they will not be further discussed here.

Prevention of Corrosion by Hydrogen Sulphide

Internal corrosion of gas transmission and distribution lines by hydrogen sulphide may be eliminated or alleviated in the following ways:

1. Protection of the pipe metal by applied coatings.
2. Use of pipe metal alloys that will withstand corrosion.
3. Dehydration of the gas entering the distribution system.
4. Removal of oxygen from the gas.
5. Removal of hydrogen sulphide from the gas.
6. Addition of inhibitors to the gas.

The use of protective coatings inside the pipe is receiving an increasing amount of attention. An optical device has been developed to permit complete inspection of the coating after application in small sized pipe. Cement lined pipe has been used with some success in handling corrosive gases and liquids.[4,15,21]

A wide variety of protective films, such as lacquers, tars, greases, anti-oxidants, etc., are on the market, but seem not to have been generally accepted for use by the gas industry.[16,17] One gas company on the west coast has applied an oil film to the inside of a transmission line operating under corrosive conditions by injecting a light oil into the compressor station discharge gases. It has been reported that in this instance the

rate of corrosion of the line was reduced at least 75 percent.[22] Glass lined and rubber lined pipe at present are too expensive to warrant their general use. Several of the new synthetic lacquers appear to have distinct possibilities for use as protective coatings inside line pipe.

At present the use of corrosion resisting alloys for pipe fabrication seems to be limited to the development of a reasonable priced pipe lined with a thin layer of a high-chrome stainless alloy.[4] None of the less expensive alloys have sufficient resistance to hydrogen sulphide corrosion to warrant their use.[23]

The possibilities of dehydration of gas entering the transmission system have received considerable attention. Several commercial installations have been made, with apparently good success.[1,19,20,21,22,23,24,25]

In many cases, dehydration of the gas appears to offer the best solution to the problem of internal corrosion.[26] Dehydration may be applied most advantageously in the case of high pressure distribution systems, as the gas entering such systems contains relatively little water per 1000 cubic feet and the load on the dehydrating system is much less than in the case of low-pressure gas.[27] The principal operating troubles with dehydrating systems using refrigeration appear to be complete removal of the condensed water droplets from the gas, and trouble from freeze-ups. Natural gas hydrocarbons will react with water to form solid hydrates that have much higher "melting points" than that of water ice.[28] But dehydration of the gas has the advantage of preventing corrosion due to oxygen as well as that due to hydrogen sulphide, and also prevents the accumulation of liquid water in the line, eliminating drip blowing and reducing freeze-ups of the line.

Some investigators[4] suggest that operating practice be improved to such a point that free oxygen in the gas is substantially eliminated. This may be possible in some systems, but is obviously impossible with other systems. For example, a large gas company is handling residue gas from several gasoline absorption plants at one of its compressor stations. The gas contains about 1.5 grains of hydrogen sulphide per 100 cubic feet, and about 1.5 percent free oxygen. Many of the wells in this district are produced under a vacuum of more than 10 inches of mercury and the producing companies are finding trouble at present in keeping the oxygen content of the gas down to 1.5 percent. It has previously been shown that only 0.3 percent of oxygen would be required in this gas for the maximum rate of corrosion to occur and it is probable that even 0.1 percent of oxygen would still cause serious corrosion.[13] Such a reduction in the amount of air that leaks into the system could not be accomplished with any practical system of gathering lines.

An economical method for the substantially complete removal of oxygen from natural gas would be welcomed by the industry. Such a method can possibly be developed.

Processes for the removal of hydrogen sulphide from gas have been the subjects of many investigations. Nearly all of the "liquid" processes, such as the soda ash process will leave appreciable amounts of hydrogen sulphide in the scrubbed gas and are relatively expensive when applied to the treatment of high-pressure gas containing concentrations of hydrogen sulphide of less than five grains per 100 cubic feet. The iron oxide box will remove hydrogen sulphide nearly quantitatively if properly used. The cost of construction and operation of such boxes under high pressures is high, and prevents their use on most natural gas lines.

Lone Star Gas Company has developed a liquid scrubbing process for the removal of hydrogen sulphide from high-pressure natural gas containing oxygen that appears to be capable of effecting nearly as complete removal of hydro-

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gen sulphide as the iron oxide box at a much lower operating cost. This process has been in operation on a line carrying 10,000 M cubic feet of gas per day for two years, and has effected a very considerable reduction in the rate of corrosion of the pipe line. The gas containing the hydrogen sulphide and oxygen is passed through a suspension of iron and zinc salts in a dilute soda ash solution. The oxygen in the gas is partly absorbed by the alkaline solution and serves to oxidize the metallic sulphides formed in the solution nearly as rapidly as they are formed. Due to this rapid oxidation the partial pressure of hydrogen sulphide over the scrubbing solution is maintained at a very low value and consequently the partial pressure of hydrogen sulphide in the scrubbed gas is maintained at a low value so long as good contact is obtained between the gas and the scrubbing solution. Cost of operation of this installation is about 0.18 cents per M cubic feet, largely due to the high depreciation rate of the scrubber caused by rapid corrosion. This depreciation cost may be decreased by the use of a stainless steel scrubber. Considerable quantities of free sulphur are formed in the process and means for the removal of this sulphur from the scrubber must be provided. Further developments along this line may be profitable.

The addition of some chemical to the gas to inhibit the action of corrosive agents in the gas is a method of attack that has received no attention by the gas industry to date. The use of inhibitors has been very successful in the hydrochloric acid treatment of oil wells and in the refrigeration industry.[29] A successful inhibitor for preventing the corrosion of iron, copper, and brass by mercaptans has been developed. Recent experimental work that has been done on the development of an organic inhibitor to be used to prevent corrosion by brine is of interest in this connection.[30]

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The above discussion has been concerned only with the physical and chemical causes, effects, and remedies of corrosion. Before the above information can be applied to any operating problem, it must be reduced to terms of dollars and cents. Unless the saving obtained from prevention of corrosion is greater than the cost of preventing the corrosion, it is preferable to allow the corrosion to continue. Therefore, each problem of corrosion must be considered individually, as the economic factors are different in each case. It will be evident from the previous discussion that the economic values involved in any consideration of internal corrosion of natural gas distribution lines are, to say the least, not well defined at present. This lack of definition is due almost entirely to a lack of knowledge of the physical and chemical factors that control corrosion and remedies for corrosion, and may not be ascribed to any lack of definition of the present unit of economic values.

The concensus at present appears to be that the most economical way of preventing internal corrosion of many natural gas transmission lines is by dehydration of the gas entering the lines. This opinion seems to be warranted by the manifold advantages that are obtained by dehydration, and by the very low costs of dehydration that are made possible by good engineering. It might be pointed out in this connection that many long transmission lines serve to dehydrate the gas automatically. Temperature and pressure conditions are often such as to cause separation of liquid water in the first 10 or 20 miles of line. After the gas has reached ground temperature, it will be cooled no further, but the pressure will continue to drop as the gas passes through the line, due to friction. So the downstream end of the line will not contain liquid water. However, these considerations are applicable only to lines in which the gas flow is fairly uniform, and do not apply to lines that are subject to intermittent flow at the downstream end and "packing."

The problem presented by the internal corrosion of pipe lines is complex, but can be solved by the application of known principles of engineering, chemistry, and economics. It offers an excellent opportunity for cooperative research.

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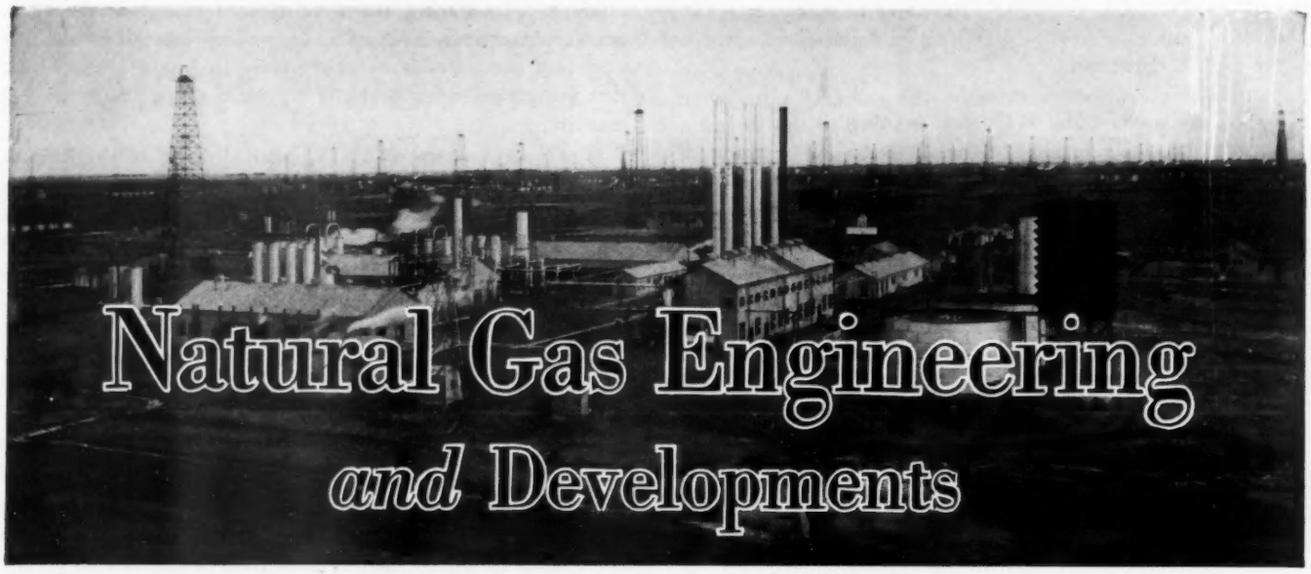

Acid Treatment *Proves Beneficial to* North Louisiana Gas Wells

WALDO W. MOORE
Staff Representative

CHEMICALS to increase oil production have been used successfully on a large scale in three separate chalk rock fields in North Louisiana during the last 18 months.

Two fields in which this method has been successful are oil fields, and one is a gas field. The first use of chemicals in North Louisiana was in the Zwolle field, and in that area 143 wells have been given treatment with increases in yield being shown in 82 wells. The increase averaged 42 percent.

In the Converse oil field, 75 wells have been treated and 39 have shown positive results, the average increase per well being 31 percent. Retreatment with chemicals has been given to 10 wells in the Zwolle and Converse fields, both in Sabine Parish. An increase was noted in four of the 10 wells given the retreatment, no increase being noted in five wells and a decrease of 50 percent in the 60-barrel per day yield being noted in one well retreated.

Of the wells treated in Converse and Zwolle, 30 were listed originally as having only a small show of oil and 29 were listed as dry holes. Of those listed as having had only a show in Zwolle and Converse 27 were completed as commercial wells ranging from five barrels per day to 550 barrels production per day. Of the 29 listed as dry holes, 20 were completed as commercial wells after treatment, ranging in daily initial from 10 barrels to 600 barrels daily.

The methods used in lime and chalk rock fields for increasing oil production are comparatively well known. The Zwolle field produces from a marl and chalk horizon at 2100 to 2700 feet. The Converse field produces from the Saratoga chalk at 1600 feet and the Annona chalk at 1900 feet, as well as other horizons. More than 50 chalk rock wells also have been treated with considerable success in the Caddo Parish fields.

In the Monroe gas field a total of 120 wells have been treated, of which a loss was noted in four wells, results not known in four wells and three dead ones were revived. Positive results were noted in 113 wells. Of the three revived the production was brought to 1,200,000 cubic feet daily in one, and to 700,000 cubic feet daily in the other. In the Monroe gas field the standard size casing used is six-inch I.D. pipe. All strings of casing are cemented and are set on top of the gas rock. There are two sizes of siphons ordinarily used, 1¼-inch and 1½-inch. The siphon runs down to the bottom of the well, just as the tubing in an oil well and its purpose is to keep the well clear of what water it makes.

The methods for treating gas wells with acid are not as well known as is the case with oil wells.

The casing and the siphon are connected so that it is not necessary to go through with this procedure before treating with acid. Upon arrival at the well the discharge line is hooked onto the outlet which leads to both siphon and casing. Before this connection is made the opera-

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OF 120 wells in the Monroe Gas field that have been treated with acid positive results were noted in 113, and in addition three dead wells were revived. This remarkable record has given impetus to the use of acid for cleaning out gas producing wells and in North Louisiana the practice has become quite common.

The methods for acid treating gas wells are somewhat different than those used when giving treatments to oil producing wells. The procedures found most practical in North Louisiana are described in the accompanying article.

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tor blows the well for 10 to 15 minutes to make certain it is clear of water. Some owners take an "open-flow" gauge of the well at that time.

After the connection is made the valves leading to the siphon are opened and the valves leading to the casing are checked to make certain they are closed.

The acid then is introduced to the well through the siphon. Due to the weight of the acid the pressure on the siphon soon falls to practically nothing and often picks up a vacuum. During this time the pressure in the casing has mounted considerably due to the acid rising in the hole, compressing the gas above it. After acid has been introduced, the valves leading to the pump are closed and those leading to the compressor are opened. The intake of the compressor is hooked up to the main gas line and this usually carries about 300 pounds of pressure. The compressor is started with the valves leading to the casing still closed, and as soon as the pressure on the siphon is practically equal to that on the casing, the valves leading to the casing are opened and the gas is compressed into both the siphon and casing simultaneously. This takes only a few moments due to the small area of the siphon pipe. The time the compressor is operated from then on depends largely on the particular well.

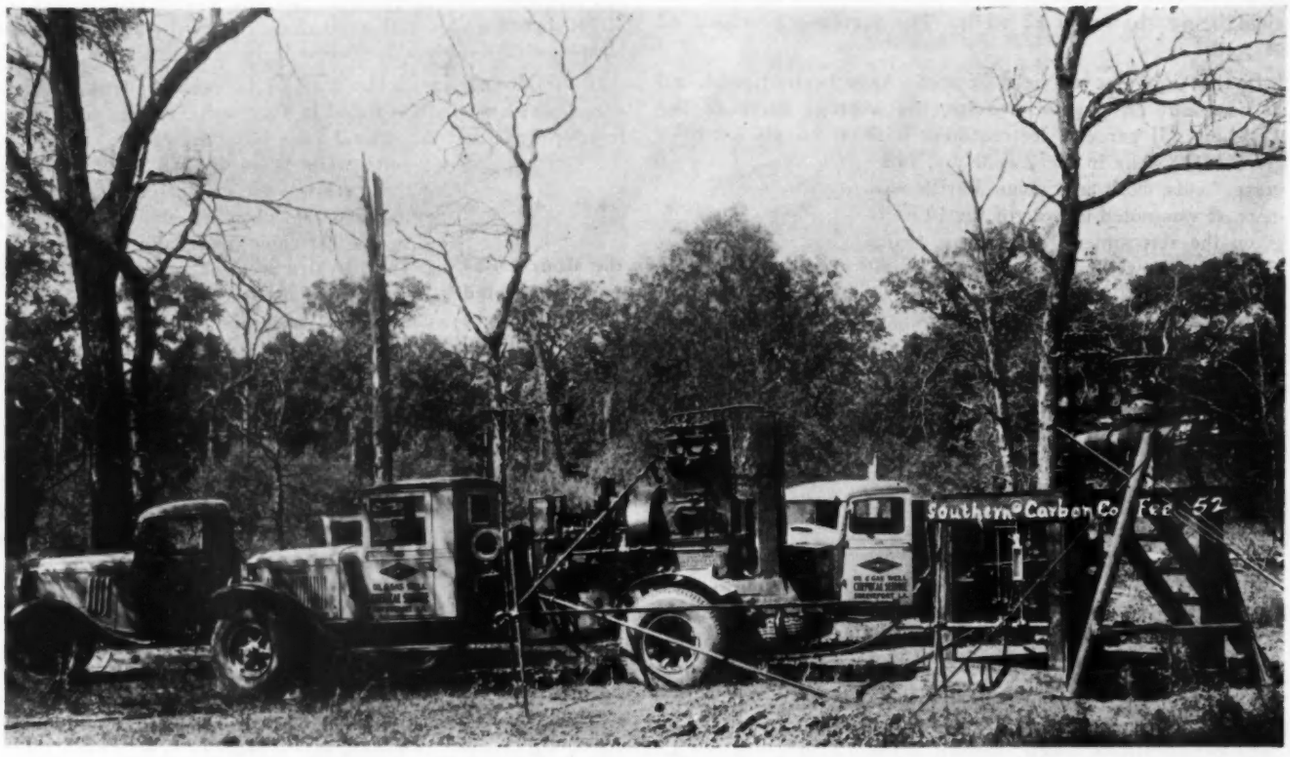
Anyone familiar with well-treating procedure readily will see that the acid has risen up the casing a considerable distance depending, of course, upon how fast the formation took the acid, while it is being pumped into the siphon, as the pressure on the siphon and casing usually build up fairly rapidly during the first part of the time the compressor is operated. As the formation starts to take the acid and the column of acid starts to lower in the hole, the pressure ceases to build up, and often starts to fall steadily.

When the column of acid is pushed down in the hole to a point below the top of the pay horizon, the pressure on the siphon and casing levels off, because the formation starts to take the gas as readily as it is being introduced at the top of the well. To run the compressor farther now would, of course, be a useless procedure, as the hole has been cleared to as great an extent as possible.

If the treater is in doubt as to whether he has fully cleared the hole, he can shut the valve leading to the casing. If the hole is clear, the gas compressed in the siphon will continue to go back into the gas rock and the pressure will not tend to rise appreciably. If, however, the hole is not clear of acid and there is still some above the pay, the pressure on the siphon will tend to rise as soon as the casing is closed up. This, it is believed, is due to the fact that one is attempting to lift fluid in the casing, or, in other words, the column of acid in the casing becomes higher than that in the siphon, which, of course, requires greater pressure on the siphon to cause this condition.

The average length of time for the operation of the compressor in the Monroe gas field is approximately one hour. However, this probably will vary greatly in other sections of the country.

A well in the Monroe, Louisiana, gas field being given an acid treatment. Acid treatment of gas producing wells has been very successful in Louisiana fields during the past 18 months



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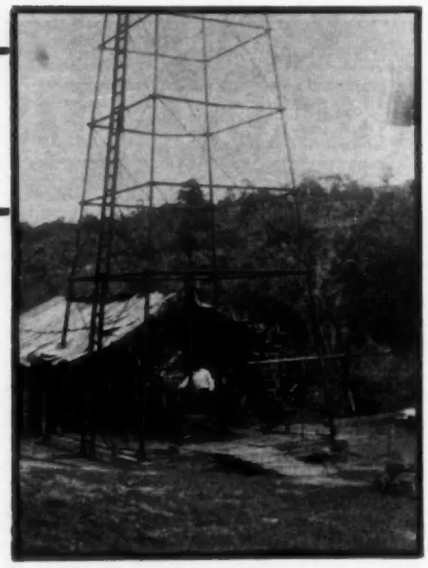

Present Conditions and Outlook of The Mexican Petroleum Industry

PRIMO DILLA MICHELL
Secretary of the National Economy

THERE are noticeable indications that the petroleum industry in Mexico is recuperating slowly but surely. This has been evident since the second semester of 1932 and clearly confirmed in 1933.

During this time the production of crude and natural gas, refinery activities, domestic consumption, and the number of wells brought in yielding paying quantities all have increased.

In general, all the activities of the industry have been enlarged and continue to be developed consistently. Moreover, new projects of importance have been planned.

During 1934, activities of major oil companies have increased, principally in the region of Tuxpan, in Papantia and in the Isthmus of Tehuantepec. On this account requests for drilling permits have been greater and greater, as have been requests for the laying of pipe lines, the erection of pumping stations, boilers, tanks and new refinery units.

Exploration activities have also increased, encouraged by the anticipated increase in consumption which so far as Mexico is concerned, will be 20 percent greater in 1934 than in any previous year.

During the past year, the petroleum industry suffered a severe blow on account of storms which blew in September over a large area of the northeastern portion of our country. The first, of lesser intensity, affected only the camps in the region of the northeastern frontier, causing small damage. On the other hand, on September 24, a storm swept over a larger area of the northeast, causing a catastrophe without precedent in the northern part of the State of Veracruz, southern part of Tamaulipas and northeastern part of San Luis Potosi..

As the basins of the Panuco and Tamesi rivers constitute the most important petroleum zones in Mexico, one can readily imagine what this catastrophe meant to the industry: extensive areas of the oil fields were inundated, telephone lines destroyed, land and water communications interrupted, several branches of pipe lines in the region of Panuco as well as in the northern part of Tuxpan damaged or totally destroyed, pumping plants inundated, and in general all the properties of the oil companies suffered considerable damage. The petroleum industry in the northern zone was compelled to suspend many of its operations for more than two weeks.

Exploration

Active explorations have begun again, using the most modern geophysical methods, as well as sounding methods, in the northeastern frontier of Mexico, principally in the States of Nuevo Leon and Tamaulipas. Equally important explorations have been started in the basins of the Panuco and Tamesi rivers, in the region of Tuxpan, and in the region to the south of the river by the same name. Exploitation drilling has started in the region of the northeastern frontier, in the basins of the Panuco and Tamesi rivers, in Ozuluama, in the Isthmus and in the State of Tabasco. Fields have been enlarged this year, and the oil companies have been encouraged to plan further projects.

Producing Wells

During the interval of August 1, 1933, to July 31 of this year, 46 producing oil wells were completed in the Mexican oil fields with an initial total yield of 3480 cubic meters daily (21,889 barrels). The total number of producing wells completed in 1933 was 53 with an initial total yield of 7473 cubic meters daily (47,006 barrels). Up to July 31, there were in the Mexican oil fields 1699 producing wells; 1049 of this number having been produced since last May.

Production

Mexican oil production in 1933 considerably surpassed not only that of 1932, but also that of 1931. In 1933 the production increased to 5,405,537 cubic meters (34,000,830 barrels) with a commercial value of $90,636,095 Mexican currency against 5,215,500 cubic meters (32,805,496 barrels) with a commercial value of $75,687,178 Mexican currency produced in 1932. (This increase was obtained in spite of the catastrophe last September to one of the most important sections of the Mexican fields). In 1933, Mexico still kept its place as the seventh power in the oil production world.

It is estimated that the production of natural gas in 1933 in the Mexican petroleum camps was 311,300,000 cubic meters (11,000,000,000 cubic feet). In the first six months of 1934 Mexican fields produced a total of 2,862,612 cubic meters (18,005,829 barrels) with a commercial value of $58,121,233 Mexican currency. These figures surpass those of the corresponding period of 1933, and from all indications the total production of the present year will be greater than the previous year, and therefore greater than the years 1931 and 1932.

Mexico has produced since the beginning of its commercial exploitation in 1901 up to June 30, 1934, a total of 273,-005,062 cubic meters (1,717,267,837 barrels) with a commercial valuation of $3,204,346,152 Mexican currency.

Exports

Our oil exports in 1933 reached a total of 3,501,768 cubic meters (22,026,121 barrels), and was 89,351 cubic meters (562,-016 barrels) less than the previous year. This was due to the very active export business during the first semester of 1932 to the United States before the tariff would take effect which would prohibit the shipping of refined products to that country. This situation has made it difficult to ship crude and combustible oils.

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year, Mexico exported a total of 2,021,201 cubic meters (12,713,356 barrels) or crude oil and its by-products, this amount being greater than that exported in the same period of time in 1933.

It seems a certainty that our production as well as our exports will be greater this year than last because the consumption and demand of the most important countries in the world has increased appreciably, some of those countries having shown an increase of 20 percent over 1933.

Refineries

Refineries in Mexico are being improved and enlarged considerably, principally in the Tampico zone where large investments are being made.

In 1933, the amount of oil for refining purposes totaled 4,787,733 cubic meters (30,114,840 barrels), and said products yielded 4,671,673 cubic meters (29,384,823 barrels) of various products: 53.2 percent combustible oil; 8.7 percent gas oil; 6.7 percent crude gasoline; 16.1 percent refined gasoline; 2.3 percent crude kerosene; 2.7 percent refined kerosene; 1.7 percent lubricants; the remainder being paraffine, asphalt, flux, coke and other products.

In the first six months of this year there were treated in the refineries 2,952,113 cubic meters (18,568,791 barrels), said treatment yielding 2,885,098 cubic meters (18,147,267 barrels). The increase in the first semester of this year was a little better than 30 percent. The natural gas refined in 1933 in the plants located in the various fields yielded 36,519 cubic meters (229,705 barrels) of natural gasoline, and in the first six months of this year those same plants produced 19,865 cubic meters (124,951 barrels).

Transportation

At present the system of oil lines and gas lines for the conveying of our petroleum production totals 5010 kilometers and has a carrying capacity from the oil producing fields to the distributing plants, or shipping point, of 313,592 cubic meters daily (1,972,494 barrels) through oil lines and a capacity of 1,090,550 cubic meters daily (38,513,864 cubic feet) through the gas lines. During 1933, 92 kilometers of pipe line were constructed, and 134 kilometers abandoned.

Storage

There are distributed in the producing fields, at the terminals, at the distributing centers and at the refineries, 3093 tanks for the storing of crude oil and by-products. These have a total storage capacity of 12,340,250 cubic meters (77,620,172 barrels). Of these 3068 are steel tanks with a capacity of 8,575,408 cubic meters (53,939,316 barrels). In 1933 there were constructed 103 tanks with a storage capacity of 54,212 cubic meters (340,993 barrels). Abandoned tanks numbered 43, with a capacity of 124,268 cubic meters (781,645 barrels).

Consumption

In 1933 there was set aside for local consumption 1,944,331 cubic meters (12,229,842 barrels) of Mexican crude oil and its by-products. Of this, 385,859 cubic meters (2,427,053 barrels) was consumed by the oil companies in their various activities of exploitation; 774,089 cubic meters (4,869,020 barrels) was consumed by the various railways, and 784,383 cubic meters (4,933,769 barrels) by our industries, automobiles, tractors, various transportations, lighting systems, etc. Moreover, there were imported 177,307 cubic meters (1,115,261 barrels) of crude and its by-products to supplement our requirements, principally in the northwestern region of Mexico which is far from our oil centers. So, the total amount of oil consumed in Mexico in the aforesaid year was 2,121,638 cubic meters (13,345,103 barrels).

In the first six months of 1934, Mexico consumed 1,207,012 cubic meters (7,592,105 barrels) of crude and its by-products, of National production. The consumption increase in the first six months of the present year was over 20 percent. This is due to the improvement of our economic situation in general and to the development of the highways in all the country.

Capital Invested

It is estimated that the capital invested in the petroleum industry in Mexico as of September 1, 1934, was $960,000,000 Mexican currency. Properties where the oil companies are carrying on their operations represent a valuation of $108,000,000 Mexican currency.

Tomorrow

Upon considering the data just given, it is clearly seen that our country is advancing slowly but surely in its path of economic recuperation, especially in the development of its highly important petroleum industry.

This industry has been improved and expanded on account of the stimulus given it, no doubt, by increased domestic and foreign consumption.

The increase in consumption has been the cause of the continued rise in the price of petroleum, and this has been one of the immediate causes for the beginning of economic and industrial improvement so noticeable in Mexico as in some other countries which are great consumers of petroleum.

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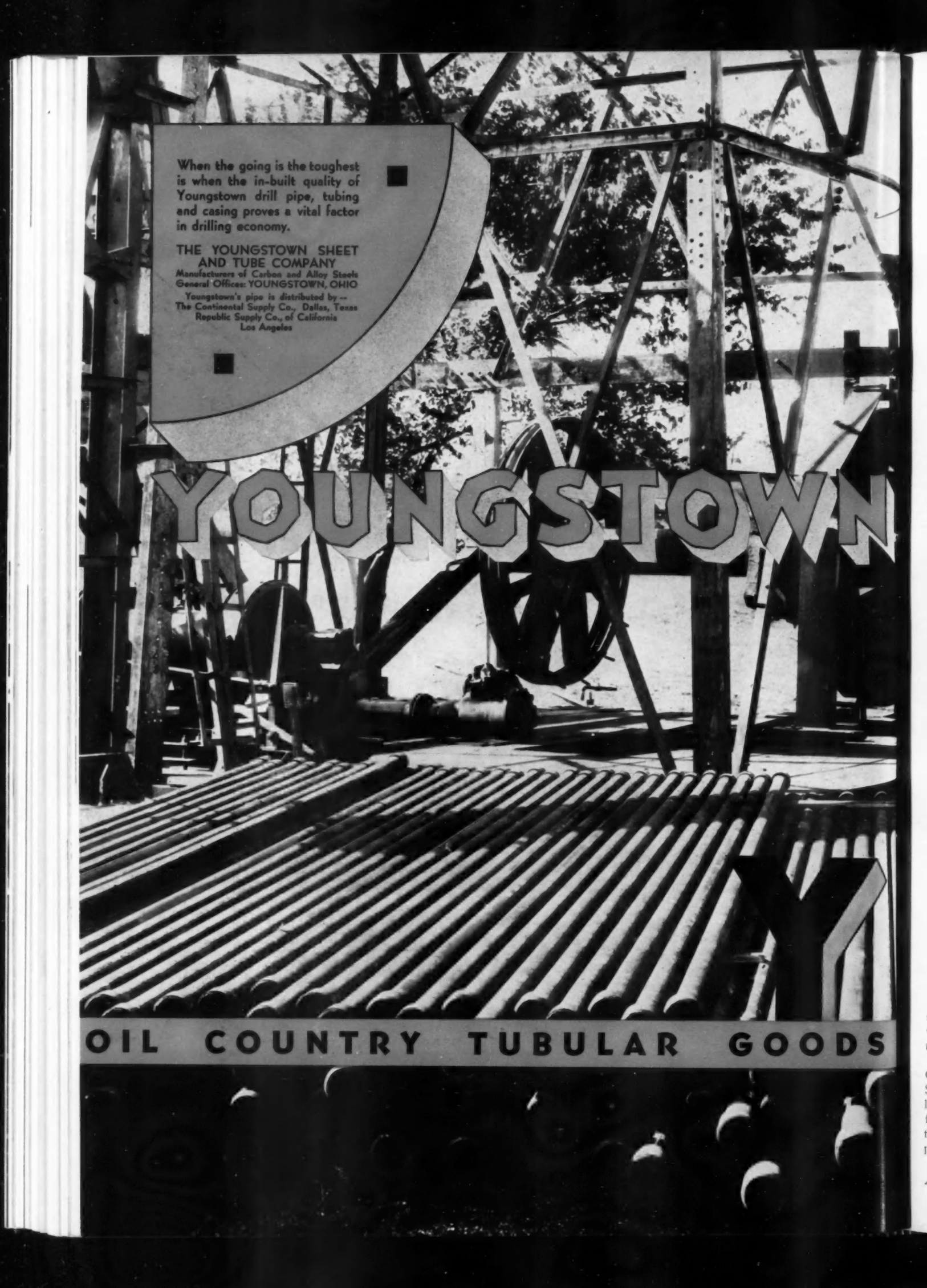
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opened new ways of communications; it is easy to reach regions heretofore isolated, which facilitates commercial and industrial development of all the country. And lastly, the consumption of combustibles, lubricants and various petroleum products indispensable to transportation and necessary for all commercial activities will normally be increased as a result of the highway construction work.

Therefore, present conditions seem to be favorable for the development of our petroleum industry and favorable also to the successful cooperation of this industry in line with the general progress of the country.

Roumanian Field Extended To Northwest by New Well

Ocnita-Razvad pool of Roumania was extended considerably to the northwest recently by completion of Refoil Company's Viforata 31, initial production of which was estimated at from 96 to 100 barrels per hour on a choke.

According to a letter from a Roumanian engineer received by THE OIL WEEKLY October 15, opinion seems divided as to whether the well really forms an extension to the above pool or whether it opens up a new pool in the vicinity of the town of Targoviste.

Viforata 31 was completed in sand at 4275 feet, after having set seven-inch casing at 4271 feet. The tubing pressure on the well was 660 pounds; casing pressure 890 pounds.

Shell and Redevenda Get Contract for Egyptian Oil

Shell Oil Company of Egypt and Redevenda of Rumania each were awarded contracts to supply the Egyptian government refinery near the entrance of the Suez Canal on the Red Sea with 5000 metric tons of crude. The 5000 metric tons which will be furnished by Shell Company of Egypt will have been produced in Persia.

Specifications of the tender provide for delivery on or about November 1, 1934.

Colombia's New Oil Law Being Studied by Committee

Prior to his recent departure for the United States of America, President-elect Alfonso Lopez of Colombia, South America, appointed a committee of four to study the Colombian petroleum question with special reference to application of the proposed new basic petroleum law.

The new law was introduced into the Colombian House of Representatives September 5, 1934. Its purpose, apparently, is to prevent approval of applications for exploiting oil lands in Colombia until Congress has had time to pass a new petroleum law.

Japan Appropriates Three Million Yen for Drilling

Japan's Department of Commerce and Industry has appropriated 3,000,000 yen to be spent in aiding development of production during 1935-1936.

From the above amount of money 580,000 yen will be devoted to encourage experimental drilling in the oil fields throughout Japan proper, and 172,000 yen will be spent on investigation of overseas oil resources. Exploratory efforts in Dutch Borneo have been subsidized to the extent of 260,000 yen. Previous exploratory efforts of Japanese oil interests in Dutch Borneo were suspended due to lack of funds. The 260,000 yen subsidy indicates resumption of these operations.

During the remainder of 1935-1936 the Japanese government will send geological parties into Hokkaido, Aomori, Akita, Niigata, and Nagano Prefectures with the hope of developing oil resources in Japan proper which will render Japan self-supporting so far as petroleum requirements are concerned.

Italy Giving Bounties for Production of Oil Products

According to Gazzetta Ufficiale of Rome, the Italian government has established bounties for the domestic production of lubricating oils, gasoline and other light petroleum products, from crude oils derived from domestic sources.

U. S. Crude Exports for Eight Months 26,664,485 Barrels

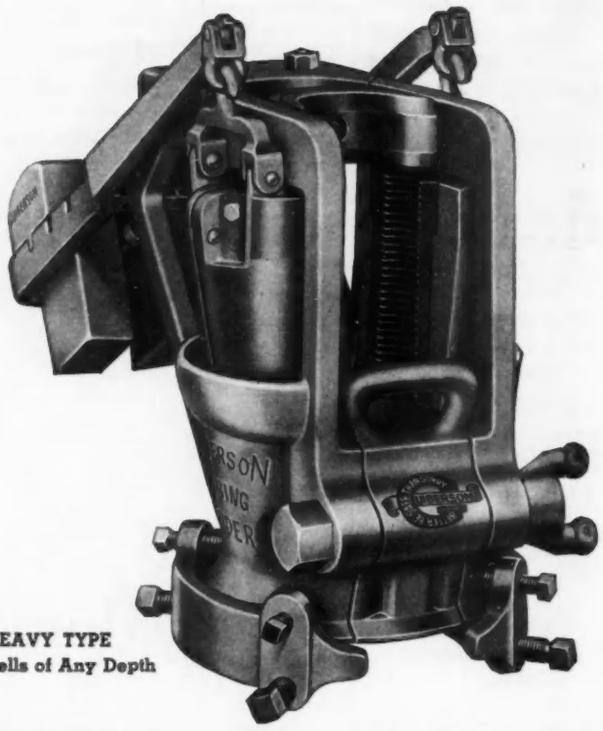
CRUDE petroleum exports from the United States in August amounted to 3,695,956 barrels, bringing the total crude exported during the eight months of 1934 up to 26,664,485 barrels, having an estimated value of $32,331,082.

Exports of refined oils thus far this year almost double exports of crude, 43,457,856 barrels with an evaluation of $110,351,101 having been shipped out up to August 31.

The following table prepared under direction of Claudius T. Murchison of hte United States bureau of foreign and domestic commerce, shows by products exports of the United States during August and during the first eight months of 1934:

	August, 1934		Eight Months Ending August, 1934	
	Quantity, Barrels	Dollars	Quantity, Barrels	Dollars
PETROLEUM AND PRODUCTS	.....	18,847,101	.....	154,382,069
Petroleum, crude	3,695,956	4,414,542	26,664,485	32,331,082
Natural gasoline	193,142	285,664	884,124	1,502,455
Refined oils	5,226,531	12,843,597	43,457,856	110,351,301
Gasoline, naphtha, and other finished light light products	1,766,110	4,102,876	14,924,211	35,935,911
In bulk	1,657,586	3,521,133	14,115,632	31,754,934
In containers	108,524	581,743	808,579	4,360,977
Illuminating oil (kerosene)	976,042	1,990,237	6,438,575	14,253,410
In bulk	880,680	1,525,823	5,714,286	10,595,051
In containers	95,362	464,414	724,289	3,658,359
Gas oil and distillate fuel oil	689,105	922,083	9,056,835	12,304,584
Residual fuel oil	1,200,460	1,011,221	7,721,907	6,492,416
Fuel oil for vessels in foreign trade (not included in Domestic Exports)	2,633,184	2,874,768	20,510,998	21,716,128
American vessels	1,592,995	1,635,715	11,979,337	12,012,905
Foreign vessels	1,040,189	1,239,053	8,531,661	9,703,223
Lubricating oil	587,728	4,731,485	5,260,552	40,777,159
Red and pale	374,949	2,750,594	3,248,303	22,011,800
Black	27,774	161,461	286,278	1,173,175
Cylinder	185,005	1,819,430	1,725,971	17,592,184
Mineral spirits	3,543	26,920	30,208	186,728
Insulating or transformer oils	2,805	30,112	20,964	220,212
Light lubricating oils in small packages	738	28,663	4,604	180,881
	Pounds	Pounds	Pounds	Pounds
Lubricating greases	7,744,950	334,231	54,376,915	2,361,082
Para=n wax	15,296,223	578,621	127,058,577	5,079,961
Unrefined	7,581,877	258,727	53,363,797	1,980,042
Refined	7,714,346	319,894	73,694,780	3,099,919
	Tons	Tons	Tons	Tons
Petroleum asphalt	19,923	344,320	144,472	2,452,425
Petroleum coke	5,805	46,126	46,373	303,763

LIGHT TYPE
For Wells up to 3500 Ft.



HEAVY TYPE
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● HEAVY TYPE
Slips Retracted

● HEAVY TYPE
Slips Engaged

No tubing spider can be full-automatic. It must be subject to control.

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2. **Coming out, weight can be set so that slips are either retracted or ride the tubing *automatically!***
3. **Its handle, with *one motion* of operator, raises or lowers *all* slips into *accurate* position.**

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BETTER BE SAFE THAN SORRY

Markets React Favorably to Promised East Texas Control

THE past week drew toward the close with the Mid-Continent gasoline market showing some improvement, although still depressed, and with crude oil prices still holding generally to the long-established levels, despite reductions earlier in the week by several small purchasers in East Texas, Oklahoma, Kansas, and Arkansas.

A threatened general break in the crude oil markets and further demoralization of the refined oil markets had been warded off, at least temporarily, by stabilization efforts in East Texas. But it remained to be seen whether or not those efforts would bring sufficiently permanent improvement to justify pronounced strengthening of the markets.

The stabilization moves in East Texas were aimed at eliminating hot oil, which was largely responsible for the existing glutted gasoline markets and for accompanying depressed wholesale and retail prices throughout the region east of the Rocky Mountains. The East Texas efforts included two principal programs: (1) a determined attempt of the federal oil control authorities to reduce hot oil, by regulation of interstate shipments under the newly promulgated tender orders, and (2) the gaining of unanimous agreement of East Texas refiners to a new gasoline buying plan, apparently assuring its early inauguration.

The shipping control, requiring shippers to obtain tenders from a federal board, establishing legal origin of oil involved, and requiring railroads to demand such tenders before moving shipments, was inaugurated October 25. Subsequent shutting down of some refineries in the district and sharp decline in the number of tank cars moving interstate indicated the tender orders were having an immediate beneficial effect.

The gasoline buying plan generally was conceded much credit, however, for the limited confidence which was returning into the markets. The plan, if and when finally inaugurated, will represent a resumption of the surplus gasoline purchasing program that was discontinued several weeks ago, pending improvement of proration enforcement. As now contemplated, the program will embody an important change, generally considered an improvement.

Participating refiners previously were guaranteed fixed, favorable prices in their sales to the major companies. But in the new program the majors will pay only the prices prevailing in the spot market. The refiners will consequently have to fulfill their obligations not to process hot oil and not to exceed gasoline production allocations, thus promoting a strong spot market, in order to realize attractive prices for material sold to the majors.

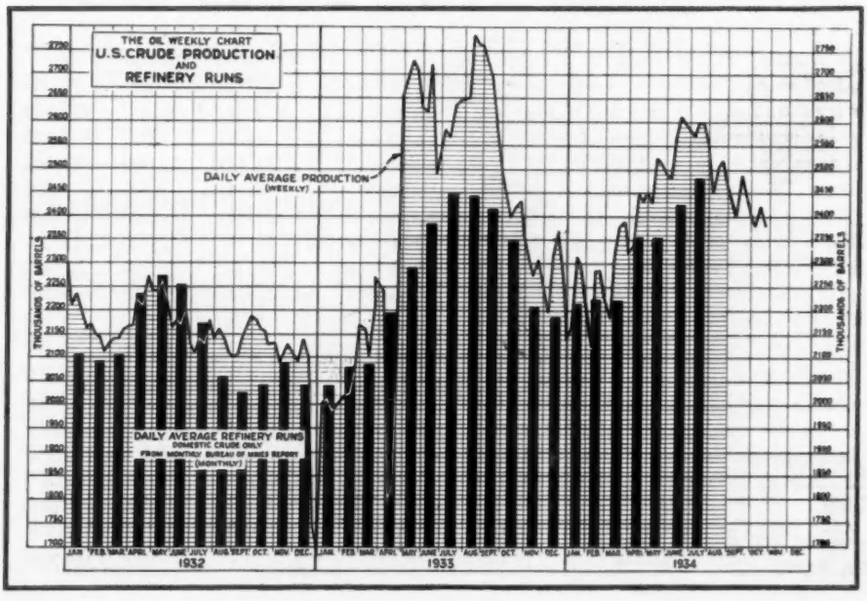
Gasoline Prices Higher

In anticipation of early commencement of actual purchases, the gasoline market was strong in East Texas in the closing days of the week, with quotations on the predominant third-grade gasoline of the area at 2¾ to 2⅞ cents per gallon, as applied to immediate shipments. It was significant also that East Texas plant owners late in the week were refusing to quote prices on future deliveries of any of their refined products. They apparently were hopeful of an important price advance for all commodities, and were waiting to cash in on the improvement.

During the week previous U. S. motor fuel, in East Texas, appeared to be averaging around the following prices: 2⅜ cents for third grade, that is 62 octane and below, 2¾ cents for middle grade or 62 to 67 octane, and 3⅝ cents for premium grade, or 68-70 octane number. For gasoline with 400 end point, the prices were an eighth cent higher for each grade.

Prior to the market improvement late in the week, the corresponding prices in North Texas were: for U. S. motor fuel, 2½, 3¼, and 3¾ cents a gallon, and for 400 end point, 2⅝, 3⅜, and 3⅞ cents. In Group Three, Oklahoma area, they were: U. S. motor, 2⅝, 3⅜, and 3⅞ cents, and the other classification, 2¾, 3½ and 4 cents.

Action of the East Texas refiners in signifying their intentions of accepting



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Some plants were reported late in the week to be buying crude oil from violators at 35 to 65 cents per barrel. With refined oil prices as they were, those refiners were therefore not realizing their usual profits.

The threat of a break in the crude oil market reached a quite real stage early in the week, when the first actual cut occurred. It was the reduction from $1 to 60 cents, posted October 23 by Atlas Pipe Line Company, an independent concern, of Shreveport, Louisiana, for its purchases in the East Texas field. Major companies and other independents in the area declined, however, to follow suit. Atlas Pipe Line Company buys around 6000 barrels of East Texas crude per day, moving it to the Shreveport refinery of an affiliate, Spartan Refining Company.

Crude price cutting did spread on a small scale, however, into Oklahoma, Kansas and Arkansas. Kanotex Refining Company of Arkansas City, Kansas, buying around 5000 barrels daily, effective October 25 reduced its scale of prices for Oklahoma-Kansas crude, posting 40 cents for 29 to 29.9 gravity, with two-cent differential to 62 cents for 40 gravity and above. For 36-36.9 gravity crude, that meant a reduction from $1 to 54 cents.

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Ouachita Valley Refining Company, El Dorado, Arkansas, on October 26 cut the price of South El Dorado crude, posting 64 cents a barrel for 40 gravity and above, a reduction of 39 cents. The new scale provided a price of 32 cents for 25 gravity and below, with a two-cent differential. The company buys only its own oil, and last month bought a total of 14,060 barrels.

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In the fore part of last week retail gasoline prices continued at greatly depressed levels in Texas and in the states along the Atlantic seaboard. The prices in some Texas districts reacted immediately, however, to the more promising outlook in East Texas late in the week. In the Houston area, for instance, third-grade gasoline jumped October 26 from 9 cents to 13 cents a gallon. The 9-cent price, including 5 cents taxes, was an all-time low record for the area, and had been in effect about two weeks. The same minimum price had prevailed also in Dallas and Fort Worth.

The price war of the past two weeks or so in the Eastern States was attributed to invasion of distress and hot East Texas gasoline, and also to controversy over price differentials between gasoline sold by independents and that sold by major companies. Prices in New Jersey were said to be the lowest in the state's history, and gasoline sales rose to summer proportions. The price dropped to 13 cents a gallon in Philadelphia, October 20, and across the state line, in Camden, New Jersey, it went to 8 cents. At Baltimore the retail posting fell to 13½ cents, including 5 cents taxes. In so far as East Texas hot oil was responsible, it appeared late last week, however, that generally higher prices might soon prevail in that Eastern region.

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Arkansas	30,000	30,200	29,300
California	462,000	452,300	457,000
Colorado	3,000	3,000	3,000
Illinois	12,000	12,000	12,000
Indiana	2,200	2,200	2,200
Kansas	125,000	123,700	120,700
Kentucky	11,500	11,500	11,500
Louisiana	90,000	88,300	87,200
Michigan	29,000	29,000	29,300
Montana	8,500	8,800	8,800
New Mexico	47,000	45,800	45,800
New York	10,000	10,100	10,100
Ohio	12,000	12,000	12,000
Oklahoma	459,300	457,400	461,000
Pennsylvania	37,200	38,400	38,400
Texas	957,300	956,100	968,400
West Virginia	11,100	11,100	11,100
Wyoming	33,200	33,900	33,900
Total	2,340,300	2,325,800	2,341,700

Tender Board Effectively Curtails East Texas Shipments

AN abrupt change in the hot oil situation in East Texas materialized last week when federal authorities effectively shut off all interstate movement of gasoline and other products manufactured from illegally produced crude. Approximately 50 percent of the plants equipped to produce gasoline temporarily suspended operations late last week to await the inauguration of the oil code sponsored gasoline buying program by majors. Qualified observers reported that the volume of illegal production was declining to a negligible volume towards the close of the week, since the market for such products has been restricted to intrastate shipments and tank truck movement. All plants having storage facilities were reported loaded to capacity with finished products that will enable the plants going on the inactive list to take care of their market demand in Texas until the stabilization program becomes effective.

All plants equipped to produce gasoline signed up early last week to conform with the code plan, and a number of topping plants are reported to be adding the necessary equipment to turn out finished products in order to take advantage of the promised market relief by majors. Since the majors are to pay the prevailing spot price quoted by plant owners on gasoline, a sharp upturn was expected within a few days. East Texas refiners were demanding from 2⅞ to three cents per gallon for gasoline meeting the requirements of the federal tender board, presided over by Normal L. Meyers, secretary of the Petroleum Administrative Board, while deliveries to market outlets within the state were quoted at from 2¼ to 2½ cents per gallon. Belief prevailed in market circles that prices on intrastate deliveries may recede further during the coming week because of plant owners being eager to rid themselves of stocks that were built up from illegal crude, thereby avoiding red tape in obtaining clearance papers when the code plan goes into effect. A survey of the plant activity towards the close of last week revealed 14 plants operating and 17 shut down in that section of the field lying north of the Sabine River, including the Gladewater area, while the Kilgore or south portion reported 19 operating and 18 shut down.

At present East Texas plants have connections to less than 20,000 barrels daily for several weeks prior to the arrival of the Washington code officials with their ban order on interstate shipments.

INTERSTATE shipments out of East Texas by one railroad, the International & Great Northern, on Wednesday of last week totalled 741 tank cars. On Thursday, after the new federal tender order went into effect, tank car shipments for interstate over the I. & G. N. totalled only 16 cars!

Majors have pledged their support of all plants desiring to buy additional crude that is produced in conformance with proration rules and at the $1 price posting. A committee to be composed of representatives of major companies and plant owners is scheduled to be assembled during the present week to perfect plans whereby such crude transfers can be completed, possibly before major company buying of gasoline begins.

During the week ending October 22, or prior to the federal ban order on interstate traffic in illicit production and products derived from same, the volume of illegal production was estimated at 103,000 barrels daily. Tank car shipments of gasoline exceeded 10,000,000 gallons during the seven-day period, while movement of topped crude by rail was credited with involving 413 cars or 3,775,000 gallons. Fuel oil shipments amounted to 7,527,000 gallons. Other products boosted total shipments to 3455 cars, or an aggregate of 29,780,000 gallons.

Crude Oil Production Down Almost Within Allowable

FOR the first time in a long period, United States crude oil production approximated the national government allowable last week, having averaged 2,334,900 barrels daily. That average was only 9100 barrels above the national allowable. It was 44,600 barrels less than the daily production during the previous week.

While the past week's production record was favorable, its importance is partially offset by two circumstances. In the first place, the above figure indicates only recorded production, and does not include unreported output, in the form of hot oil. The East Texas field is currently the principal source of such hot oil, and last week its illegal production was indicated to have continued above 100,000 barrels daily, although some decrease from the previous week's estimate of 115,000 barrels probably occurred. When that East Texas hot oil is taken into account, it is indicated that last week's crude oil output in the United States actually exceeded the federal allowable by about 100,000 barrels daily.

Another circumstance partially dis-

Crude Production Near Federal Allowable

The Oil Weekly Estimated Average Daily Production of Crude Oil

District or State	Bbls. Daily for Week Ending Oct. 27	Oct. 20
TEXAS—		
Texas Panhandle	55,000	55,500
North Texas	57,200	58,100
West Central Texas	27,400	27,300
West Texas	139,200	138,500
East Central Texas	43,100	44,100
East Texas Field	403,500	402,100
South Texas	59,200	57,900
Texas Gulf Coast	164,100	162,600
Total Texas	948,700	946,100
OKLAHOMA—		
Oklahoma City	125,300	158,950
Seminole Area	110,400	116,925
Tatums	5,725	6,550
Lucien	8,700	7,325
Others	189,425	190,600
Total Oklahoma	439,550	480,350
KANSAS—		
Ritz-Canton	10,690	10,325
Voshell	5,395	5,950
Nikkel-Hollow	11,860	12,625
Sedgwick	7,450	7,625
Others	89,355	87,125
Total Kansas	124,750	123,650
LOUISIANA—		
North Louisiana	23,800	23,700
Louisiana Gulf Coast	72,200	72,100
Total Louisiana	96,000	95,800
ARKANSAS	30,800	30,900
CALIFORNIA—		
Long Beach	54,500	62,500
Santa Fe Springs	35,200	36,000
Huntington Beach	40,500	41,000
Dominguez	17,300	16,000
Inglewood	8,500	11,000
Ventura Avenue	23,000	21,500
Seal Beach	7,500	7,200
Midway-Sunset	54,200	53,500
Elwood	10,000	9,200
Kettleman Hills	61,000	55,000
Playa del Rey	7,500	7,600
Others	145,800	152,500
Total California	465,000	473,000
MOUNTAIN STATES—		
Wyoming	35,000	34,900
Montana	11,500	10,800
Colorado	3,200	3,500
Total Rocky Mountain States	49,700	49,200
NEW MEXICO	45,900	46,500
EASTERN STATES	103,500	102,500
MICHIGAN	31,000	31,500
Total United States	2,334,900	2,379,500

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Total	2,340,300	2,325,800	2,341,700

Tender Board Effectively Curtails East Texas Shipments

AN abrupt change in the hot oil situation in East Texas materialized last week when federal authorities effectively shut off all interstate movement of gasoline and other products manufactured from illegally produced crude. Approximately 50 percent of the plants equipped to produce gasoline temporarily suspended operations late last week to await the inauguration of the oil code sponsored gasoline buying program by majors. Qualified observers reported that the volume of illegal production was declining to a negligible volume towards the close of the week, since the market for such products has been restricted to intrastate shipments and tank truck movement. All plants having storage facilities were reported loaded to capacity with finished products that will enable the plants going on the inactive list to take care of their market demand in Texas until the stabilization program becomes effective.

All plants equipped to produce gasoline signed up early last week to conform with the code plan, and a number of topping plants are reported to be adding the necessary equipment to turn out finished products in order to take advantage of the promised market relief by majors. Since the majors are to pay the prevailing spot price quoted by plant owners on gasoline, a sharp upturn was expected within a few days. East Texas refiners were demanding from 2⅞ to three cents per gallon for gasoline meeting the requirements of the federal tender board, presided over by Normal L. Meyers, secretary of the Petroleum Administrative Board, while deliveries to market outlets within the state were quoted at from 2¼ to 2½ cents per gallon. Belief prevailed in market circles that prices on intrastate deliveries may recede further during the coming week because of plant owners being eager to rid themselves of stocks that were built up from illegal crude, thereby avoiding red tape in obtaining clearance papers when the code plan goes into effect. A survey of the plant activity towards the close of last week revealed 14 plants operating and 17 shut down in that section of the field lying north of the Sabine River, including the Gladewater area, while the Kilgore or south portion reported 19 operating and 18 shut down.

At present East Texas plants have connections to less than 20,000 barrels daily for several weeks prior to the arrival of the Washington code officials with their ban order on interstate shipments.

INTERSTATE shipments out of East Texas by one railroad, the International & Great Northern, on Wednesday of last week totalled 741 tank cars. On Thursday, after the new federal tender order went into effect, tank car shipments for interstate over the I. & G. N. totalled only 16 cars!

Majors have pledged their support of all plants desiring to buy additional crude that is produced in conformance with proration rules and at the $1 price posting. A committee to be composed of representatives of major companies and plant owners is scheduled to be assembled during the present week to perfect plans whereby such crude transfers can be completed, possibly before major company buying of gasoline begins.

During the week ending October 22, or prior to the federal ban order on interstate traffic in illicit production and products derived from same, the volume of illegal production was estimated at 103,000 barrels daily. Tank car shipments of gasoline exceeded 10,000,000 gallons during the seven-day period, while movement of topped crude by rail was credited with involving 413 cars or 3,775,000 gallons. Fuel oil shipments amounted to 7,527,000 gallons. Other products boosted total shipments to 3455 cars, or an aggregate of 29,780,000 gallons.

Crude Oil Production Down Almost Within Allowable

FOR the first time in a long period, United States crude oil production approximated the national government allowable last week, having averaged 2,334,900 barrels daily. That average was only 9100 barrels above the national allowable. It was 44,600 barrels less than the daily production during the previous week.

While the past week's production record was favorable, its importance is partially offset by two circumstances. In the first place, the above figure indicates only recorded production, and does not include unreported output, in the form of hot oil. The East Texas field is currently the principal source of such hot oil, and last week its illegal production was indicated to have continued above 100,000 barrels daily, although some decrease from the previous week's estimate of 115,000 barrels probably occurred. When that East Texas hot oil is taken into account, it is indicated that last week's crude oil output in the United States actually exceeded the federal allowable by about 100,000 barrels daily.

Another circumstance partially dis-

Crude Production Near Federal Allowable

The Oil Weekly Estimated Average Daily Production of Crude Oil

District or State	Bbls. Daily for Week Ending Oct. 27	Oct. 20
TEXAS—		
Texas Panhandle	55,000	55,500
North Texas	57,200	58,100
West Central Texas	27,400	27,300
West Texas	139,200	138,500
East Central Texas	43,100	44,100
East Texas Field	403,500	402,100
South Texas	59,200	57,900
Texas Gulf Coast	164,100	162,600
Total Texas	948,700	946,100
OKLAHOMA—		
Oklahoma City	125,300	158,950
Seminole Area	110,400	116,925
Tatums	5,725	6,550
Lucien	8,700	7,325
Others	189,425	190,600
Total Oklahoma	439,550	480,350
KANSAS—		
Ritz-Canton	10,690	10,325
Voshell	5,395	5,950
Nikkel-Hollow	11,860	12,625
Sedgwick	7,450	7,625
Others	89,355	87,125
Total Kansas	124,750	123,650
LOUISIANA—		
North Louisiana	23,800	23,700
Louisiana Gulf Coast	72,200	72,100
Total Louisiana	96,000	95,800
ARKANSAS	30,800	30,900
CALIFORNIA—		
Long Beach	54,500	62,500
Santa Fe Springs	35,200	36,000
Huntington Beach	40,500	41,000
Dominguez	17,300	16,000
Inglewood	8,500	11,000
Ventura Avenue	23,000	21,500
Seal Beach	7,500	7,200
Midway-Sunset	54,200	53,500
Elwood	10,000	9,200
Kettleman Hills	61,000	55,000
Playa del Rey	7,500	7,600
Others	145,800	152,500
Total California	465,000	473,000
MOUNTAIN STATES—		
Wyoming	35,000	34,900
Montana	11,500	10,800
Colorado	3,200	3,500
Total Rocky Mountain States	49,700	49,200
NEW MEXICO	45,900	46,500
EASTERN STATES	103,500	102,500
MICHIGAN	31,000	31,500
Total United States	2,334,900	2,379,500

Crude Runs to Stills; Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks; and Cracked Gasoline Production, Week Ended October 20, 1934

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(a) Stocks of Unfinished Gasoline	(b) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Term., in Trans. & Pipe Lines	Total at Refys., Term., etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	582	582	100.0	499	85.7	4,272	8,730	13,002	835	230	14,647	496	471	95.0	77
Appalachian	150	140	93.3	96	68.6	746	872	1,618	240	100	1,731	69	69	100.0	23
Ind., Ill., Ky.	446	422	94.6	356	84.4	3,154	3,461	6,615	797	45	5,387	325	309	95.1	101
Okla., Kans., Mo.	461	386	83.7	229	59.3	2,345	1,466	3,811	434	680	3,806	256	238	93.0	57
Inland Texas	351	167	47.6	93	55.7	827	76	903	256	600	1,465	82	66	80.5	22
Texas Gulf	566	552	97.5	440	79.7	3,616	293	3,909	1,191	* 170	10,201	358	355	99.2	91
Louisiana Gulf	168	162	96.4	115	71.0	764	615	1,379	177	5	3,306	71	71	100.0	19
North La.,—Ark.	92	77	83.7	50	64.9	244	45	289	79	40	573	41	38	92.7	9
Rocky Mountain	96	64	66.7	41	64.1	462	.....	462	108	35	531	46	42	91.3	14
California	848	822	96.9	406	49.4	8,988	1,977	10,965	799	2,295	73,521	209	209	100.0	51
TOTALS WEEK: October 20, 1934	3,760	3,374	89.7	2,325	68.9	25,418	17,535	42,953	4,916	4,200	115,168	1,953	1,868	95.6	464
October 13, 1934	3,760	3,374	89.7	2,267	67.2	25,999	17,110	43,109	4,956	4,200	115,317	1,953	1,868	95.6	469

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week October 20, 1934, compared with October, 1933 Bureau figures.

Estimate B. of M. Basis October 20, 1934	2,495		515
Estimate B. of M. Basis October 13, 1934	2,435		520
U. S. B. of M. October, 1933: Daily Average Crude Runs	2,434	U. S. B. of M. October, 1933: Daily Average Cracked Production	516

(a) Amount of Unfinished Gasoline contained in Naphtha Distillates.
(b) Estimated. Includes Unblended Natural Gasoline at refineries and plants; also Blended Motor Fuel at plants.

Summary of Field Results During Past Week

State	Completions	Oil wells	Gas wells	Failures	Init. prod.
California	10	10	0	0	17,085
Kansas	17	10	1	6	4,170
Louisiana	12	7	2	3	4,025
Michigan	5	5	0	0	2,575
Mississippi	1	0	0	1	0
Montana	5	4	0	1	735
N. Mexico	3	3	0	0	7,035
Oklahoma	40	25	0	15	17,580
Texas	184	135	4	45	483,580
Wyoming	2	0	0	2	0
Total	279	199	7	73	536,785

Comparison of Permits Granted for New Wells

State	Week ending Oct. 27	Total this month	Total this year	Total this date last year	1933 year total
Arkansas	1	8	77	39	47
California	16	30	69	487	593
Louisiana	14	66	662	632	755
Kansas	26	81	562	546	682
Michigan	6	25	365	352	420
Oklahoma	41	167	1,663	982	1,315
Texas	206	667	9,641	6,314	7,845
Total	310	1,083	13,517	9,352	11,651

counting the importance of last week's apparently favorable production record was the fact that the relatively low output represented a customary technical month-end contraction. Two of the leading oil producing states, Oklahoma and California, have been regularly contributing toward such month-end curtailment, in connection with their proration programs. In both states there is a disposition of operators to make a rush early in each month to produce their allowables as soon as possible, lest their wells prove incapable of earning their quotas. Then later in the month production tapers off, and for excesses early in the month there occurs at least partially compensating underproduction later in the month. Last week those two states reflected such lowered production, and their records made possible the fact that total United States recorded output was within the allowable.

Oklahoma's production of 439,550 barrels daily last week was 40,800 barrels lower than for the previous week, and it was 17,850 barrels under the federal agency allocation to the state. Oklahoma City field and the Seminole area both contributed materially toward the reduction of output.

California production averaged 465,000 barrels daily during the week ending October 27. That was 8000 barrels less than in the previous week, and was 13,000 barrels per day more than the federal agency allowable.

Recorded production in Texas continued below the federal government allocation, having averaged 948,700 barrels daily. That figure was 2600 barrels higher than for the previous week, but was nevertheless about 7000 barrels below the allowable. The East Texas hot oil was responsible, however, for a large actual excess of production above the allowable, as previously stated.

Louisiana continued its record of several months' standing of producing in excess of the federal government allocations. For the week the output averaged 96,000 barrels daily, or nearly 8000 barrels per day more than the allowable, little change having occurred in comparison with the previous week's production.

Kansas production for the new week averaged 124,750 barrels daily. In the previous week it had averaged 123,650 barrels daily, or almost exactly the 123,700 barrels per day prescribed by the federal government in its schedule of allowables.

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices—Revised to October 26, 1934)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$ .84	2¢	40—$1.08	9-29-33
N. and N.-C. Texas	28— .79	2¢	40— 1.03	9-29-33
Texas Panhandle				
Gray County	34— .79	2¢	40— .91	9-29-33
Carson-Hutchinson	34— .69	2¢	40— .81	9-29-33
West Texas				
Ector, Pecos, Wk'lr.	*.75			9-29-33
Crane, Upton, Howard and Glasscock	*.70			9-29-33
East Texas	*1.00			9-29-33
Texas Gulf Coast				
Conroe	35— 1.09	2¢	40— 1.19	9-29-33
Tomball	*1.15			9-29-33
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 20— .82	2¢	34— 1.12	9-29-33
South and SW Texas	Below			
Refugio (Light)	20— .82	2¢	34— 1.12	9-29-33
Refugio (Heavy)	*.85			9-29-33
Saxet	*.85			9-29-33
Mirando	*.80			9-29-33
Pettus	*1.05			9-29-33
Salt Flat	*.87			9-29-33
Darst Creek	*.87			9-29-33
Arkansas				
El Dorado (Light) and Rainbow	29— .79	2¢	40— 1.03	3-17-34
El Dorado East Field and Smackover	*.70			9-29-33
North Louisiana	29— .79	2¢	40— 1.08	9-29-33
Urania	*.85-*.87			1- 1-34
South Louisiana	Below			
Lockport	20— .80	2¢	34— 1.10	9-29-33
Iowa, Cameron Mds.	Below 20— .70	2¢	34— 1.00	9-29-33
Rocky Mountain States				
Salt Creek	29— .84	2¢	40— 1.08	9-29-33
Elk Basin	*1.17			9-29-33
Grass Creek (Light)	*1.17			9-29-33

*All gravities—flat rate.
†Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Big Muddy	*$1.01			9-29-33
Rock Creek	*1.02			9-29-33
Sunburst	*1.35			9-29-33
Lance Creek	*1.02			8-25-33
Osage	*.62			8-25-33
Cat Creek	*.45			8-25-33
Ponders	*.65			8-25-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.30			9-29-33
Illinois	*1.13			1- 5-34
Princeton	*1.13			1- 5-34
Western Kentucky	*1.08			5-26-34
California				
Signal Hill	14— .65	1¢	16— .66	9- 6-33
	17— .69	2¢	22— .84	9- 6-33
	23— .88	3¢	30— 1.09	9- 6-33
Seal B., Alamitos Hts.	19— .65	3¢	20— .68	9- 6-33
	21— .72	4¢	22— .76	9- 6-33
	23— .81	4¢	26— .93	9- 6-33
	27— .98	4¢	30— 1.10	9- 6-33
Huntington Beach	14— .65	4¢	15— .69	9- 6-33
	16— .72	3¢	19— .81	9- 6-33
	20— .83	3¢	28— 1.07	9- 6-33
	29— 1.09	3¢	30— 1.12	9- 6-33
Inglewood	14— .65	4¢	16— .73	9- 6-33
	17— .76	4¢	18— .80	9- 6-33
	19— .83	4¢	20— .87	9- 6-33
	21— .90	4¢	22— .94	9- 6-33
	23— .97	4¢	24— 1.01	9- 6-33
Playa del Rey	14— .65	1¢	15— .66	9- 6-33
	16— .69	4¢	17— .73	9- 6-33
	18— .76	4¢	19— .80	9- 6-33
	20— .83	4¢	21— .87	9- 6-33
	22— .90	4¢	23— .94	9- 6-33
	24— .97	3¢	25— 1.00	9- 6-33
			26— 1.04	9- 6-33
Olinda-Brea Canyon	14— .65	4¢	16— .73	9- 6-33
	17— .76	3¢	28— 1.10	9- 6-33
Athens-Rosecrans Domingues	23— .83	3¢	24— .86	9- 6-33
	25— .90	4¢	26— .94	9- 6-33
	27— .97	3¢	29— 1.04	9- 6-33
	30— 1.08	4¢	31— 1.12	9- 6-33
			32— 1.15	9- 6-33
Elwood (fob ship.)	33— 1.08	3¢	37— 1.15	9- 6-33
Torrance	14— .65	1¢	15— .66	9- 6-33
	16— .69	3¢	20— .81	9- 6-33
	21— .83	3¢	26— .98	9- 6-33

*All gravities—flat rate

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Richfield	15— .65	2¢	16— .67	9- 6-33
	17— .70	4¢	20— .82	9- 6-33
	21— .85	4¢	22— .89	9- 6-33
	23— .93	4¢	24— .97	9- 6-33
	25— 1.00	4¢	27— 1.08	9- 6-33
	28— 1.11	4¢	29— 1.15	9- 6-33
Whittier-LaHabra	15— .65	3¢	18— .74	9- 6-33
	19— .78	3¢	24— .93	9- 6-33
Montebello	19— .65	1¢	20— .66	9- 6-33
	21— .69	3¢	22— .72	9- 6-33
	23— .76	4¢	24— .80	9- 6-33
	25— .85	4¢	26— .89	9- 6-33
Coyote Hills	16— .65	3¢	19— .74	9- 6-33
	20— .78	3¢	29— 1.05	9- 6-33
	30— 1.09	3¢	34— 1.21	9- 6-33
Santa Fe Springs	21— .72	4¢	22— .76	9- 6-33
	23— .79	4¢	25— .87	9- 6-33
	26— .90	4¢	28— .98	9- 6-33
	29— 1.01	4¢	30— 1.05	9- 6-33
	31— 1.08	4¢	33— 1.16	9- 6-33
	34— 1.19	4¢	35— 1.23	9- 6-33
	36— 1.26	4¢	38— 1.34	9- 6-33
New Hall, McKittrick, Kern River	14— .57		19— .57	9- 6-33
Midway-Sunset, Elk Hills, Buena Vista Hills	17— .57	4¢	18— .61	9- 6-33
	19— .64	3¢	22— .73	9- 6-33
	23— .77	4¢	33— 1.17	9- 6-33
Lost Hills	17— .57	4¢	21— .73	9- 6-33
	22— .76	3¢	30— 1.00	9- 6-33
Coalinga	17— .57	1¢	18— .58	9- 6-33
	19— .62	3¢	21— .68	9- 6-33
	22— .72	3¢	25— .81	9- 6-33
Wheeler Ridge	17— .57	1¢	18— .58	9- 6-33
	19— .61	3¢	25— .79	9- 6-33
Kettleman Hills	33— .93	3¢	39— 1.11	9- 3-33
Pennsylvania				
Bradford	*2.25			4- 1-34
Sw Pa. Pipe Line	*2.22			4- 1-34
Eureka Pipe Line	*2.17			4- 1-34
Buckeye Pipe Line	*2.07			4- 1-34
Corning Grade	*1.20			9-11-33
Michigan				
Central Michigan	*1.20			9-30-33
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

*All gravities—flat rate.

P&C Sees No Need for Pipe Line Rate Inquiry

Washington, D. C.—Believing that the investigation now pending before the Interstate Commerce Commission will prove adequate to develop all facts regarding pipe line rates and practices, the Planning and Coordination Committee has advised Oil Administrator Harold L. Ickes that it sees no necessity at this time for the oil administration undertaking such an inquiry.

The committee's position was set forth in a letter to the administrator, replying to an inquiry by the latter April 10, last, as to whether the committee did not believe it desirable to look into pipe line rates and practices.

In announcing its views on the subject, the Planning and Coordination Committee pledged its cooperation to the Interstate Commerce Commission and indicated that any data in its possession would be at disposal of the commission.

Group Three Markets Strong Despite Crude Cuts

THE Mid-Continent refinery market remained unchanged except that greater strength was indicated for the prices which had been quoted for the preceding week. The opinion was being generally expressed in Tulsa that major purchasing companies would not follow crude oil price cuts posted by three indepednent concerns, at least not before November 1. This would give time to determine to some extent the effectiveness of federal activity in the East Texas area and it was believed that should a favorable condition obtain by that date, a general price cut would be averted at this time.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid Cont. (36 Gr.)	Calif. (26 Gr.)
Mareh 5, 1933	.....	.....	Cut 24.
May 2, 1933	.....	Cut 19.	.....
May 9, 1933	Cut 20.	.....	.....
May 22, 1933	Up 10.	.....	.....
June 19, 1933	Up 10.	Up 19.	.....
June 26, 1933	Up 10.	.....	Up 9-12
July 6, 1933	Up 13.	Up 10.	.....
July 17, 1933	Up 15.	.....	.....
July 28, 1933	Up 15.	.....	.....
August 11, 1933	Up 10.	.....	.....
August 24, 1933	.....	Up 10.	.....
August 30, 1933	Up 15.	.....	.....
September 6, 1933	Up 10.	Up 10.	Up 15.
September 8, 1933	.....	Up 15.	.....
May 1, 1934	Up 10.	.....	.....

CRUDE PRODUCTION TAXES

Oklahoma—Three percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Three percent of gross value at well and ½-cent per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

SAFETY NEWS

One Million Hours Without a Lost Time Accident Is Achieved

L. M. KELSEY

Tulsa.—Sinclair Prairie Oil Company celebrated an unusual occasion on October 22, 1934, at Shidler, Oklahoma, when company officials, employes and friends assembled to commemorate the completion of one million hours of routine field work without a disabling or lost time injury to any employe in the company's Burbank district. Safety work of the company is carried on through safety chapters in the various districts, the first chapter having been organized in the Burbank district on June 9, 1925. The 1924 accident record for the district shows 122 injuries but due to the wholehearted support of the safety program by Superintendent John W. Stoker of the production department and Superintendent L. M. Kelsey of the gasoline department, and the safety chapter which includes all employes, a marked improvement was shown immediately after installation of the safety chapter. By 1928 accidents had become so uncommon as to suggest the possibility of their entire elimination. At the January meeting of the chapter in 1929 it was proposed that a goal of one million hours without lost time injury be set. The idea was put in the form of a motion and unanimously carried.

During the five years that have elapsed since the goal was set 13 wells have been drilled to an average depth of 3000 feet, 27 wells have been plugged, 2803 strings of rods making up a total length of 3185.2 miles have been pulled and rerun, 496.6 miles of tubing in 437 strings have been pulled and run and 1,776,346 barrels of oil have been produced. In addition the usual gasoline plant activity of cleaning cars, etc., and routine production work have been carried on. The gasoline department produced 28,370,445 gallons of gasoline during the period and in addition to the one million hours for the entire district, has a credit of eight months beginning May 9, 1929, without a lost time accident.

During the five-year period the company underwent a merger with the consequent necessity of training new men, the industry experienced its greatest depression, and the past summer was about the hottest that has ever been experienced in Oklahoma, all which have a decided bearing on accidents and serve to emphasize the record attained by the Burbank Chapter. The one million hours expired October 1, 1934, and the chapter has now set its goal at two million hours, a record which would far surpass anything now standing in connection with oil field work.

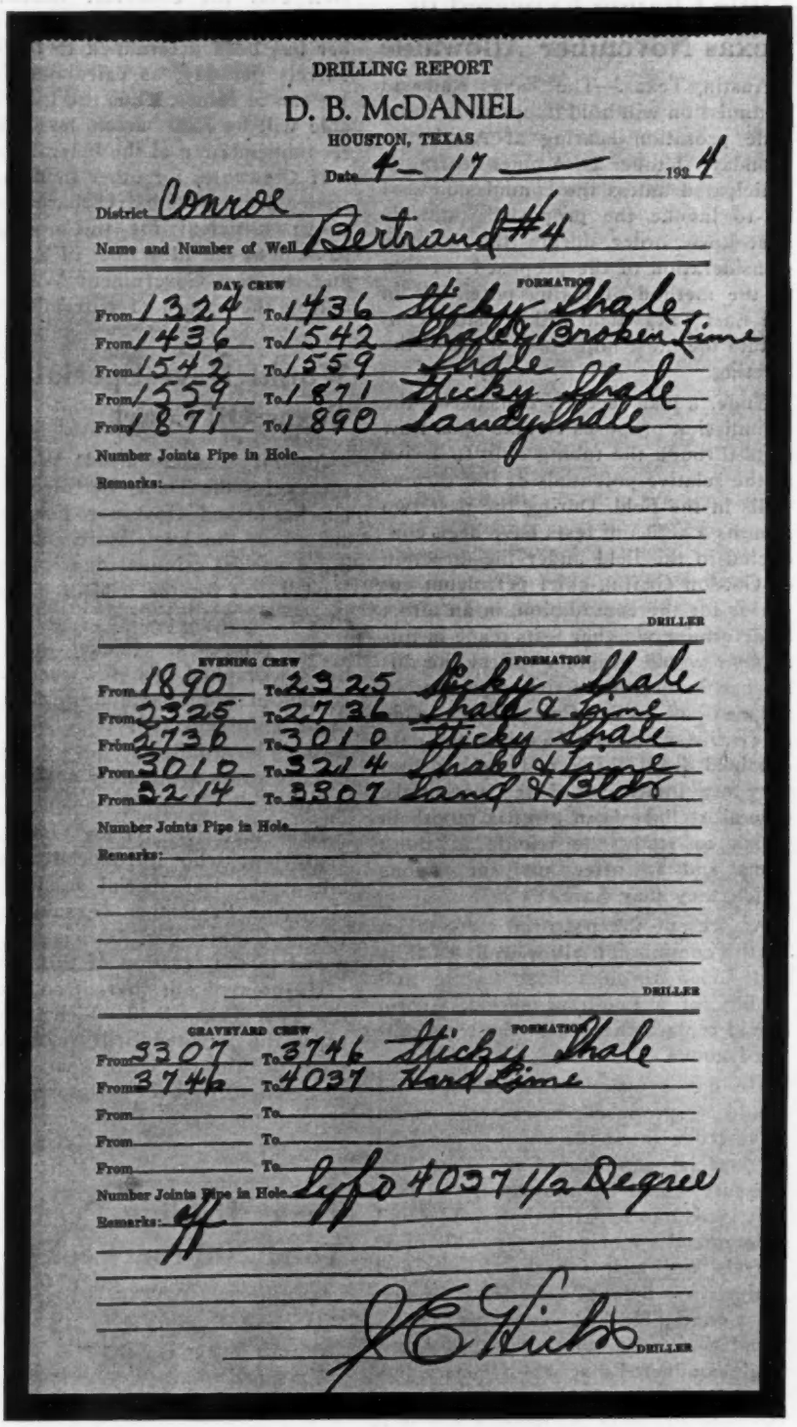
The celebration included a program in the auditorium of the Shidler High School, followed by a barbecue and entertainment on the company golf course adjacent to the school grounds.

JOHN W. STOKER

SINCLAIR PRAIRIE OIL COMPANY
CERTIFICATE
In recognition of having completed more than one million consecutive man hours of work in the production and gasoline departments in the Shidler-Burbank field without disabling or lost-time injury to any employee, this certificate is hereby given
Tulsa Oklahoma October 22, 1934
Attest
Chairman of the Board
President

another

HAYSTELLITE RECORD



DRILLING REPORT

D. B. McDANIEL

HOUSTON, TEXAS

Date 4-17 1934

District Conroe

Name and Number of Well Bertrand #4

DAY CREW

From 1324	To 1436	Sticky Shale	
From 1436	To 1542	Shale & Broken Lime	
From 1542	To 1559	Shale	
From 1559	To 1871	Sticky Shale	
From 1871	To 1890	Sandy Shale	

Number Joints Pipe in Hole

Remarks:

DRILLER

EVENING CREW

From 1890	To 2325	Sticky Shale
From 2325	To 2736	Shale & Lime
From 2736	To 3010	Sticky Shale
From 3010	To 3214	Shale & Lime
From 3214	To 3307	Sand & Shale

Number Joints Pipe in Hole

Remarks:

DRILLER

GRAVEYARD CREW

From 3307	To 3746	Sticky Shale
From 3746	To 4037	Hard Lime
From	To	
From	To	
From	To	

Number Joints Pipe in Hole Lufo 4037 1/2 Degree

Remarks: 4"

J. E. Fitch DRILLER

Here's the original report of a bit set and faced with Haystellite Inserts and Haystellite Composite Rod which drilled from 1324 ft. to 4037 ft., or a total of 2713 ft.

A new booklet "Haynes Stellite Products in the Oil Fields" tells how to apply Haystellite Inserts and Composite Rod to obtain these remarkable results. Write for your copy today.

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HAYNES STELLITE COMPANY

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Little Change Expected in Texas November Allowable

Austin, Texas.—The Texas Railroad Commission will hold its monthly statewide proration hearing at Austin on Monday, October 29. A quiet hearing is anticipated unless the commission sees fit to invoke the proposed statewide shut-down order during the interim. Consideration of the proposed revision of the method of taking potentials in the East Texas field will probably constitute the most important phase of the meeting.

Under a plan recently considered, the commission proposes to take open-flow tests through the tubing only to arrive at the relative potentials of the various wells in the field. During the past two months a series of tests have been conducted in the field under the direction of Gordon Griffin, chief petroleum engineer for the commission, in an effort to determine whether tests made in this manner would properly reflect the difference in the productive capacities of the various wells. Calculations made by Griffin, which are based on the data obtained from these tests, show that they are indicative of the potentials. Operators have been given a month in which to study the results of these plans and to offer any suggestions which they may have.

At present the potential tests taken by the commission allow wells to flow wide open through both casing and tubing for a two-hour period. Griffin would replace these with the tests outlined above.

He has explained that far less oil would be produced, more wells could be tested without the expense required for special equipment, and that less pressure would be dissipated.

It is also anticipated that Griffin will recommend a maximum allowable of 30 barrels per well for the North and South Government Wells fields in Duval County. He has made this recommendation twice before, and has meanwhile conducted a series of tests which show that pressure is now dropping at the rate of some 24 pounds per million barrels produced, which is excessive in his opinion.

The total state allowable on October 22 was 947,897 barrels per day, 9203 barrels per day less than the allowable of 956,100 barrels recommended by the United States Bureau of Mines for the month of October. This included an allowable of 405,804 barrels per day for the East Texas field.

It is estimated that the allowable on November 1, providing none of the orders are altered, will total 950,120 barrels per day. The Department of the Interior has certified to the commission that the consumer demand for Texas oil during the month of November has been determined to be 957,300 barrels per day, as calculated by the Bureau of Mines. Thus the total allowable will be 7180 barrels less than the recommendation of the federal board.

If allowables for other fields are unchanged, the 7180-barrel margin should prove sufficient for the normal expansion of the allowables of East Texas and the two Government Wells fields during the month of November.

Would Have Special Texas Oil Court

Austin, Texas.—Fred Weeks, attorney for the Texas Petroleum Council, has asked Governor Ferguson to submit to the Legislature a bill creating a special criminal district court in East Texas for the trial of oil penalty cases.

"Oil thieves are thicker than flies," he telegraphed, "a few penitentiary sentences are absolutely essential to state enforcement . . . District attorneys have failed to act . . . Fines in penalty cases are merely a slap on the wrist . . ."

Representative Sidney Latham of Longview, who introduced a similar bill at the last special session which closed on September 27, said that the Gregg County Bar Association is opposed to the creation of this court.

He pointed out that three courts in the East Texas field which have been especially created will automatically close within the next year. The bar association, Latham said, favors the retention of one of these courts, rather than the establishment of a new one.

Texas Drilling Permits Total 208 for Week

Austin, Texas.—The railroad commission granted permits for the drilling of 208 wells in Texas last week, 77 less than the number granted during the week preceding.

A decline in the number of wells allowed in East Texas accounted for most of the drop. There were 72 permits granted, of which 53 were in Rusk County, 16 in Gregg and three in Upshur County.

Southwest Texas was second among the districts with a total of 39 new wells allowed, 10 of which were in Duval County, and the remainder scattered over a wide area.

An increase was noted in the North Texas district, where 33 permits were granted. Archer County led with 16 new wells, and Young County reported 11.

Want Commission Gas Order Modified

Austin, Texas.—Paramount Gasoline Company, operating in the Pledger field in Brazoria County, has filed an application for modification of the order of the Texas Railroad Commission under which they now operate. The request has been set down for hearing at Austin on October 30.

The order of the railroad commission provides that all residue gas shall be returned to the sand to which it was indigenous. Recently the state filed a suit against the company, alleging that the gas was being blown into the air after it was stripped. An injunction was granted in district court at Austin requiring the gasoline plant operators to comply with the commission order.

In their request for modification, Danciger Brothers, who operate the plant, advise that they have made repeated efforts to sell the residue gas, but that they have been unable to find a market.

At the hearing they brought citizens from the area who testified that the continued operation of the plant was beneficial to the public welfare, and the contention was made that it was better to operate the plant for the benefit of this group than to conserve the gas for posterity.

This request was allowed by the commission, and that portion of the order requiring the gas returned to the sand was subsequently revoked.

Vinton Pipe Line Completed

Lake Charles, La.—During the past week Gulf Refining Company was testing its 20-mile, six-inch pipe line from the Vinton field in Calcasieu Parish to the East Hackberry field in Cameron Parish. This is the first pipe line out of the East Hackberry field. Heretofore the oil was carried away on barges.

Gulf Refining Company's Irwin 1, in the East Hackberry field was completed during the past week for 552 barrels daily through a three eighths-inch choke from 6210 feet. On a drill stem test from 6185 to 6210 feet the well showed 1100 feet of fluid, 1000 feet being oil and 100 feet mud. The test was made in eight minutes through a quarter-inch choke on top and bottom. Pressure was 60 pounds.

In the Leesville field of La Fourche Parish, it is reported that Magnolia Petroleum Company has sent a representative in the area to see about buying the excess crude in the field and barging it to Beaumont, Texas.

Nomenclature Committee Finishes Oklahoma Work

Tulsa.—The Oil Field Nomenclature Committee of the Mid-Continent Oil and Gas Association met here on Wednesday, October 24, to discuss names for pools discovered during recent months and to adopt names for older pools which heretofore have not been named or which have been called by various names. The committee now has covered Oklahoma entirely and most of Kansas and soon will publish the list of names.

Those in attendance at the Wednesday meeting were: George Schwab, Barnsdall Oil Company; Vance E. Rowe, Carter Oil Company; Harry F. Wright, Williams Brothers; Joe E. Hale, The Texas Company; Charles Pishney, Amerada Petroleum Corporation; Henry Langspecht, Shell Petroleum Corporation; Glenn Padgett, Mid-Continent Oil and Gas Association; Floyd Swindell, THE OIL WEEKLY; and Paul S. Hedrick, The Tulsa World.

George Schwab, chairman of the committee and Glenn Padgett, secretary, were complimented on the work accomplished during the past few weeks when the two went over and picked names for the older pools of Oklahoma. Since many of these pools are close together, the task involved much painstaking work and it is an accomplishment that it would have taken the whole committee several months to attain.

Drilling Cost Established For Osage County Fields

Tulsa.—The Oklahoma Drilling Practices Sub-Committee of the Planning and Coordination Committee met here on Monday, October 22 and announced the figure of $2.39 as the economic cost per foot of cable tool drilling in the South Burbank and Naval Reserve pools of Osage County, Oklahoma. Average depth was said to be 2804 feet.

This cost is exclusive of day work and is based on the regulation contract whereby the contractor furnishes drilling labor, supervision and drilling equipment. In arriving at the figure overhead, administration, obsolescence, depreciation, well and operating costs and a reasonable allowance for hazard were considered.

Some confusion has arisen over figures published for other districts. The figure stated above is representative of actual cost of drilling rather than a figure at which a contractor could drill a well and make a profit.

The Oklahoma committee is composed of A. W. Ambrose, Empire Companies; Thomas D. Phillips, secretary; G. A. Manahan, independent producer; H. W. Klein, Stanolind Oil & Gas Company; S. G. Sanderson, Gypsy Oil Company; D. L. Schoenfeld, independent operator; H. L. Sullivan, independent operator; C. L. McMahon, independent operator; and W. K. Whiteford, Barnsdall Oil Company.

Development Plans for Three Oklahoma Fields

Washington, D. C.—Approval of plans for development of three new pools in Oklahoma was announced by the oil administration October 25, when policies for operation of the Shawnee pool, Wilcox horizon of the Fears pool and the Wilzetta pool were made public.

In the Shawnee pool not more than six wells are to be drilled up to January 1, next, by which time the operators are to submit a permanent plan. Each of the wells is to be in the center of a 10-acre tract.

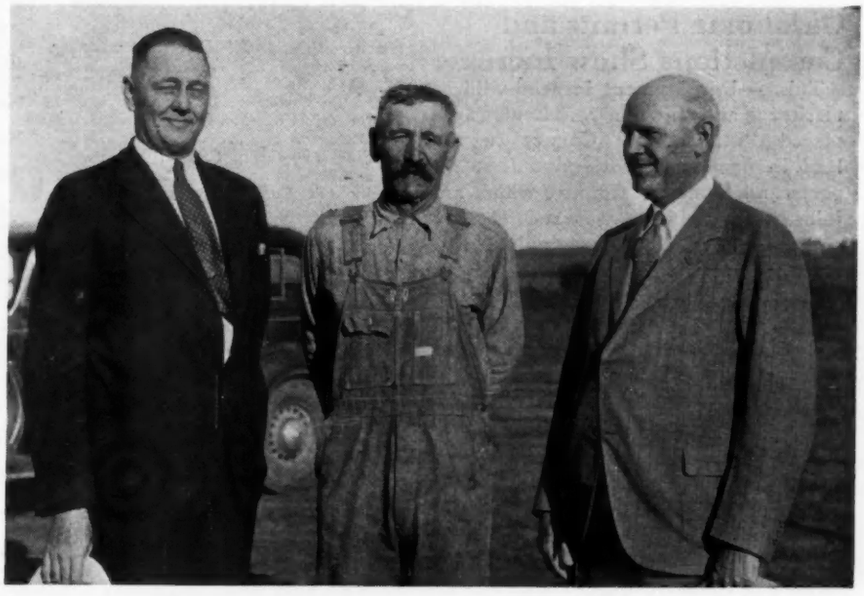
In the Fears pool a spacing of 660 feet between wells is to be required and no well may be drilled within 330 feet of any property line, lease line or subdivision line. Not more than two additional wells are to be drilled during the remainder of the year, and a plan for drilling for 1935 is to be submitted by December 10.

Any and all wells hereafter drilled in the Wilzetta pool are to be located not more than one well to 10 acres, and not more than five wells may be drilled to production this year, with a plan for 1935 to be submitted by December 10.

Edmond Pool Test Finds Wilcox High

Edmond, Okla. — Considerable interest was attached during the week to Marathon Oil Company's Keefer 1, NWc 5-13n-3w, the fourth test due for completion in the Edmond pool of northwestern Oklahoma County. The test is a south offset to the discovery well and was not expected to pick up Wilcox sand higher than 6600 feet. Early in the week it encountered the sand at 6320 feet, 280 feet structurally higher than in the discovery well, and cored highly saturated sand from 6340 to 6361 feet, at which depth coring was discontinued and seven-inch casing cemented at 6317 feet. It is now waiting on cement to set.

Several geologists had accounted for the difference in structural relationship by faulting, placing the discovery well and its southwest offset on the downthrow side and the west offset to the discovery well on the upthrow side. This would have placed the Keefer test on the downthrow side and Wilcox sand would not be expected above 6600 feet. Evidently a faulted condition exists and it is probable that more than one fault will have to be drawn between the wells upon which correlations have been made. Cores recovered from the Keefer test show a system of roughly parallel lines of darker material intersecting the cores at approximately 60 degrees, an indication that the test is in a faulted zone.



Left to right: J. J. Frommer, superintendent of production in the Oklahoma district for Marathon Oil Company; Charles E. Keefer, owner of the land on which Marathon is drilling the fourth test in the new Edmond pool; and M. E. Wagner, vice president in charge of production for Marathon. Keefer has promised a big barbecue "If you fellers get me a well."

Oklahoma November Allowable Recommended

Oklahoma City.—In a hearing held here on Thursday, October 25, it was recommended to the Oklahoma Corporation Commission that November allowable be set at 459,300 barrels daily to conform to the federal allocation for that month. This is an increase of 1900 barrels daily over the October allocation, the amount to be distributed among the wildcat and unprorated pools.

Allocations to the various classes of pools were recommended as follows: Class A, 118,620 barrels daily; Class B, 126,095 barrels daily; Class C, 13,032 barrels daily; Class D, 6600 barrels daily; pools under voluntary proration agreements, 27,332 barrels daily; and unprorated areas, 167,621 barrels daily. Recommendations for pools under voluntary proration agreements were as follows: South Burbank, 10,000 barrels daily; Naval Reserve, 7865 barrels daily; Gray, 1669 barrels daily, and Chandler, 7798 barrels daily. It was expected that the commission would adopt the recommendations without change.

Newkirk, Oklahoma.—A. G. Oliphant announced location for Hudson 1, SW SW SE 14-28n-3e, a wildcat test five miles east of here in eastern Kay County. It is slightly over two miles north of production in the Mervin pool. Oliphant recently purchased at a Pawnee agency sale leases on W½ NW 13-28n-3e for $540 and Lots 6 and 7, 23-28n-3e for $284.54.

Oklahoma Permits and Completions Show Increase

Tulsa.—Development in semi-wildcat territory and in the St. Louis area placed Pottawatomie County in the lead in new work with nine first reports and Seminole County, which adjoins it to the east, was second with eight firsts. Osage County had five starts; Pontotoc County, four; Creek County, three; Hughes, Marshall and Okmulgee counties, two each; and Comanche, Grady, Jefferson, Lincoln, Okfuskee, and Oklahoma counties, one each. This was a total of 41 first reports compared to 32 for the preceding week.

Completions followed the same trend with an increase of 25 percent, there being 25 new oil wells with combined initial production of 17,582 barrels, one test rigged up and abandoned, two cellars abandoned, one location abandoned and 11 dry holes, a total of 40 completions which involved 82,753 feet of drilling. Four old wells accounted for 553 feet of this activity. Reports of the week were as follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
BECKHAM COUNTY—		
W. B. Price et al, John Hoard 1, ne ne sw 17-8n-26w	*	2357
CREEK COUNTY—		
T. P. Henry, T. Jacobs 1, nw sw sw 1-15n-7e	rur and abd.	
Sinclair Prairie Oil Co., C. Washington 17, sw ne ne 7-17n-7e	*	2405
Bay State Oil Co., Tiger 3, ne sw sw 3-17n-8e	400	1357
Magnolia Petroleum Co., Street 8, nw nw ne ne 3-17n-8e	33	1384
C. W. Titus, Casey 6, ne ne se sw 3-17n-8e	400	1333
Curtis Oil Co., Edgerton 1, cnw se 6-17n-10e	25	2190
W. C. McBride, Inc., Starr 29, ne se se ne 17-18n-7e	35	2492
GARVIN COUNTY—		
Denton, Gray 1, nw nw sw 9-4n-3e	cel.	abd.
HUGHES COUNTY—		
Troupe Oil Co., Haskett 8, ne ne se se 15-7n-8e	40	1177
JEFFERSON COUNTY—		
Bridwell Oil Co., Wohlgemuth 3, ne nw se nw 30-6s-5w	65	1508
LOGAN COUNTY—		
Texas Co., C. W. Denny 2, se se se se 33-17n-4w	2272	6153
MARSHALL COUNTY—		
C. M. Hapgood, Adams 1, nw se sw sw 31-7s-6e	10	542
McCLAIN COUNTY—		
Benedum & Trees, James 1, se nw sw 10-5n-3e	*	4227
MUSKOGEE COUNTY—		
Sheppard, Flowers 1-A, ne sw sw 5-13n-16e	*	1774
OKFUSKEE COUNTY—		
Barnsdall Oil Co. et al, Holmes 1-A, sw sw ne 27-12n-11e	*	3590
OKLAHOMA COUNTY—		
Harrell-Davis, Hani 1, se nw ne sw 22-11n-3w	312	6565
Harrell-Davis, Fish 1, se ne se se 22-11n-3w (owdd)	598	6606
OKMULGEE COUNTY—		
Kingwood & Mid-Continent Oil Co., Barnett 23, se ne ne sw 34-15n-14e	*	586
Sparton, Tiger 1-A, sw sw nw 19-16n-14e	*	1695
OSAGE COUNTY—		
Clint Moore Estate et al, 5, se ne ne ne 17-21n-9e	*	280
Johnson Oil Refining Co., 1, nw nw nw se 30-21n-9e	160	349
W. C. Norris, 4, nw nw sw se 29-21n-11e	40	1950
Sinclair Prairie Oil Co., 1, cse se nw 9-23n-7e	*	2535
W. C. McBride, 37, nw sw nw 17-23n-12e (owdd)	25	1625
Carter Oil Co. et al, 2, sw sw sw 2-25n-6e	5	2860
Phillips Petroleum Co., 1, nw nw ne 8-25n-6e	24	2820
Skelly Oil Co., 5, nw sw se 16-25n-6e	160	2853
Phillips Petroleum Co., 16, csw ¼ 14-25n-11e (owdd)	*	2162
Central Oil Co., 55, nw se sw ne 34-29n-10e	9	1091
PONTOTOC COUNTY—		
Moore, Wirick 2, ne se sw 29-2n-7e (owdd)	3618	4042
J. E. Crosby, Inc., Harden 3, ne sw ne 30-2n-7e	7440	4270
POTTAWATOMIE COUNTY—		
Atlantic Oil Co. et al, Standridge 2, nw sw sw 10-7n-4e	138	3954
E. W. Jones, Kanaster 1, ce½ sw sw 18-7n-4e	*	4018
Inland Development Co., Brandenburg 1, se se nw 21-7n-4e	cel.	abd.
Morgan Petroleum Co., Robertson 1, ne ne se 30-8n-4e	489	4450
Atlantic Oil Co., Delaware 3, se se se 12-9n-4e	653	4216
SEMINOLE COUNTY—		
Empire Oil & Ref. Co., Myers 2, ne ne ne ne 31-7n-8e	596	3119
STEPHENS COUNTY—		
Lewis Sykes, Mulkey 4, cwl w½ ne 16-1s-8w	35	2100

*Failures; †Junked; ¶Million cu. ft. gas.

South Burbank Field Leads Oklahoma in Activity

Fairfax, Oklahoma.—The Naval Reserve pool of south central Osage County has three tests close to completion and five tests shut down under requirements of the development program. Lewis Production Company's and The Texas Company's Osage 1, SE SE SW 9-24n-7e, had Bartlesville sand from 2614 to 2654 feet and set 5 3/16-inch casing at 2602 feet. After drilling plugs and cleaning out, it flowed at the rate of 75 barrels daily. In an attempt to increase production the hole was shot with 70 quarts of nitro between 2621 and 2649 feet. Operators were cleaning out a bridge and estimated the well good for 300 barrels. The same operator's Osage 2, SW SE SW 9-24n-7e, was to be shot after flowing 300 barrels from Bartlesville sand at 2672 to 2699 feet, the total depth. The 5 3/16-inch casing was set at 2652 feet. Osage 3 on the same farm SE SW SW 9-24n-7e, drilled to 2627 feet, steel line measurement, and was running 5 3/16-inch casing.

South Burbank Pool

Despite the fact that the new South Burbank pool is restricted to one well to each 40-acre tract the pool was leading the state in activity with more than 50 operations. In the northern portion of the pool Carter Oil Company et al's Osage 2, CNW NW NW 2-25n-6e, set 12½-inch casing at 49 feet, 10-inch at 1338 feet and was drilling ahead below 1875 feet. Gypsy Oil Company's and Norbla Oil Company's Osage 5, CSE NW NW 3-25n-6e, set 15½-inch casing at 672 feet, 12½-inch at 1024 feet, and was running 10-inch pipe with total depth at 1135 feet. Skelly Oil Company made locations for Osage 6, CSE SW SE and Osage 7, CSW SE SE, both in 16-25n-6e.

Eastern Kay County

S. R. McCorkle et al announced location for Osage 1, SWc 6-26n-4e, a wildcat test four and one half miles west of Kaw City and approximately seven miles southeast of production in the Mervine pool. It was announced as a Wilcox sand test.

Logan County

Guthrie, Oklahoma.—Helmrich & Payne et al were moving in rig for their recently announced Sturgis 1, SE SE NW 1-15n-2w, a wildcat test five miles southeast of here in south central Logan County. Twelve miles west and one mile south of this test Summit Drilling Company et al were digging pits and moving in rig for

Dunbar 1, SW SW NE 25-15n-4w, another wildcat test with Wilcox sand as its objective.

Kansas Operators Complete 17 Wells and Start 26

Wichita, Kansas.—Kansas operators continued to follow a conservative policy during the week with over 60 percent of the new work concentrated in Russell, Rice and Reno counties. The former led the state with seven first reports, Rice County had five and Reno County four. Cowley, Greenwood and McPherson counties had two starts each and Butler, Rush, Sedgwick and Stafford counties, one each, a total of 26 first reports compared to 23 for the preceding week.

Ten new oil wells added 4172 barrels to the state's potential, one dry gas well had an initial volume of 225,000 cubic feet and six dry holes were shown on the completion list. The total of 17 completions, six less than during the preceding week, accounted for 47,513 feet of drilling of which 28 feet were in one old well.

Reports of the week are shown below:

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
National Refining Co., Ingersoll 1, cnw ne 2-19s-13w	*	3380
Stanolind Oil & Gas Co., Hauser 4, csw ne 16-20s-11w	39	3320
BUTLER COUNTY—		
Pen West, Steinhoff 1, cse se se 21-29s-6e	75	2217
CHASE COUNTY—		
Polhamus & Skelly Oil Co., Leady 2, ne ne sw 25-22s-9e	70	2484
COWLEY COUNTY—		
Gralopp, Barnett 1, se sw sw 18-32s-5e	120	2114
GREENWOOD COUNTY—		
Henderson, Harlen 4, nw ne nw nw 24-22s-11e	50	1974
HARVEY COUNTY—		
Denver Producing & Refining Co., Marten 6, nw sw se 19-22s-3w (owdd)	60	3543
KINGMAN COUNTY—		
Skelly Oil Co., Kimble 1, sw nw ne 29-27s-10w	*	4236
McPHERSON COUNTY—		
Apex Oil Co., Knudson 5, nw nw se 23-19s-2w	87	2963
MORRIS COUNTY—		
Home Gas Co., Kennedy 1, cnw se 17-16s-7e	¶¼	650
RENO COUNTY—		
Frost Drilling Co., Shite 2, sw se se 2-23s-4w	1361	3615
Olson Oil Co. and Shell Petroleum Corp., Querfeld 2, se se se 27-23s-4w	551	3602
RICE COUNTY—		
Darby Oil Co. et al, Taylor 1, nw se sw 25-19s-8w	*	3552
Detrick, Fitzpatrick 1, cne ne 30-21s-8w	*	3737
RUSSELL COUNTY—		
Palmer, Barrell 3, se se se 21-13s-14w	1759	3280
SUMNER COUNTY—		
Wentz et al, Small 1, nw nw sw 5-33s-4w	*	4700
WOODSON COUNTY—		
Wolf Creek, Corkey 1, nw se nw nw 29-25s-14e	*	1517

*Failures; †Junked; ¶Million cu. ft. gas.

Stanolind Pays Million Dollars for Fitts Property

Ada, Oklahoma.—It has been learned that reports of the sale of J. C. Shaffer Inc., properties in the Fitts Pool, approximately 12 miles southeast of here, to Carter Oil Company were premature and that a deal has been consummated between Shaffer and Stanolind Oil & Gas Company. It is understood that total consideration for the 50 percent interest in 130 acres is $1,000,000, of which $200,000 were in cash and the remaining $800,000 in interest bearing bonds to be retired over a period of 10 years. The properties involved were described as follows: W½ SW, excepting SE SW SW 30-2n-7e; SW SE 25-2n-6e; and S½ NW SE 25-2n-6e. One well with a potential of 9000 barrels daily and two drilling wells are located on the properties.

Noble County

Perry, Oklahoma.—Marathon Oil Company announced location for Gilber 1, NEc 24-22n-3e, a wildcat test 14 miles northeast of here in eastern Noble County. Wilcox sand is to be the objective horizon.

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East Texas Wildcat Play Awaiting Outcome of Tests

Palestine, Texas.—Elapse of nearly five months since an oil or gas strike has been made by a wildcat in the Woodbine sand belt of East Texas has deprived the area of its usual active trading opportunities. Companies and operators are following closely the progress made on tests now underway in anticipation of a surprise development. With few exceptions this exploration work has been sponsored by independents, and financial support has been obtainable from majors when credible geological and geophysical data had been submitted, but the latter are not contributing a proportionate cost in carrying on the search for new producing areas.

Gulf Production Company is the only major engaged in drilling a wildcat in the district. This company had proceeded below surface pipe last week on Tuckey Royall-M. A. Davey 1, located in northwest corner of the M. Rogers Survey. It is in the Camp Hill area, southern Anderson County, and several miles northwest of several recent tests near Slocum. Gulf Production Company has placed a high rating on the geophysical information that supports this test, and in order to fill in a few gaps in its block is credited with having paid $100 per acre lately for a few tracts.

Shallow sand topped at 441 feet and cored to 503 feet by Gulf Production Company's Camp Hill wildcat showed oil at 461 feet and two feet of sand showing heavy oil was reported in the last core. Operations were temporarily halted but reports indicate drilling will be resumed to the Woodbine level. Plans are to move in a spudder to ascertain the production value of this unexpected shallow oil horizon, which is believed to be the Queen City sand.

The Marshy Springs structure, located about 13 miles south of Fairfield, Freestone County, now receiving a test by the E. L. Smith Oil Company and W. A. Reiter in the northwest part of E. J. Barker 160-acre tract, A. G. Smith Survey A-731, was credited with checking high on structure in drilling through the Pecan Gap chalk section to 3790 feet. This topped the chalk at 3370 feet, or 2870 feet below sea level, indicating a structural relief of about 300 feet when correlated with the same marker logged in other tests in the area. Base of the chalk was reported at 3460 feet.

In southeastern Henderson County and about five miles north of Frankston, Cosden Oil Corporation's Hurt-Miller 1, J. B. Hays Survey, was due to enter the Woodbine section towards the close of the week. It was drilling in Eagleford shale at 4730 feet. Remote position of this test from previous tests in the general area affords little opportunity for accurate correlation of the chalk markers, although majors eagerly sought protection acreage last spring along the edge of the drilling block at prices averaging about $20 per acre after geophysical surveys placed a subsurface high in a north and south trend from Frankston.

Supported by a geophysical picture that outlines an exceptionally large structure, the Rains County test of Rio Oil Corporation on the O. L. J. Easter 39-acre tract, R. Hotchkiss Survey, was included in the group of wildcats being closely scouted last week. This test was coring Eagleford shale at 4160 feet, with the Woodbine due within the next 100 feet. Base of the Austin chalk was logged at 3728 feet, or 3296 feet below sea level. It is reported to be checking about 115 feet higher on structure than a previous test drilled several miles to the north by Geo. Greer et al.

Gilliland Offers Dollar For East Texas Crude

Shreveport, La.—R. G. Trippett and A. H. Meadows of Shreveport, associates of J. W. Gilliland, East Texas operator, who it is said has 70 producing wells in the East Texas field, in an announcement in Shreveport Wednesday, said the Gilliland interests would pay $1.00 for East Texas crude and would extend pipe line connections to those interests who have connections with any company offering a price of 60 cents per barrel for East Texas oil.

The announcement said the offer of connections would be limited to 100 new connections. The Gilliland interests' announcement came on the heels of an announcement Tuesday by Atlas Pipe Line Company of Shreveport, that it was cutting the price of East Texas crude to 60 cents per barrel.

Arkansas Fuel Oil Company (Cities Service), the only other Shreveport company handling East Texas crude, announced it would continue to pay $1.00 for East Texas crude.

Uvalde County

San Antonio, Texas.—Humble Oil & Refining Company has reached a depth of 4665 feet and still in Pennsylvanian in R. L. Anderson, deep prospect just east of the town of Uvalde in Uvalde County. This well is intended to test the Ordivician if shallower production is not found. It is the deepest test to be drilled in this general vicinity and its information will be of great value in making future geological studies of the general district.

Natural Gasoline Output of East Texas Increasing

Tyler, Texas.—Natural gasoline recovery plants are making their appearance in the East Texas field in greater numbers, and additional equipment is being added to plants that have been in operation over a prolonged period. The gas accompanying the oil flow averages about 3¾ gallons of gasoline per 1000 cubic feet.

Sabine Valley Gasoline Company is negotiating for the erection of a combination plant on the Mary Scott Survey, Gregg County, that will process about 10,000,000 cubic feet daily. The projected gathering system would connect with about 1100 wells situated on both sides of the Sabine River. Tentative contract has been made for Atlantic Oil Producing Company to supply about 40 percent of the gas. E. R. Ratcliffe, an official of Spartan Refining Company, Shreveport, La., and associates, who also operate Hercules Gasoline Company's natural gasoline plant in the Kilgore area, are sponsoring the above project.

Gilliland Gasoline Company, Inc., is reported to be enlarging its plant on Empire Gas & Fuel Company's Jeter lease, north Gregg County, to a throughput capacity of 14,000,000 cubic feet daily through the addition of eight units. It was completed last June with six units.

Another gasoline plant for the Kilgore area is to materialize through the construction of a two-unit plant by Parker Gasoline Company on the Watson tract, J. S. Carruthers Survey, Gregg County.

Alma Oil Company, Oklahoma City concern with producing properties in the field, recently placed in operation a two-unit plant on the C. B. Cox tract, H. R. Hokit Survey, near Gladewater.

A recent survey of the natural gasoline plant activity in the field showed 16 plants in operation, with a combined output of about 250,000 gallons daily.

East Texas Border Counties Get New Test

Shreveport, Louisiana.—The East Texas counties bordering the North Louisiana line reported one new location and one completion last week. The completion was a junked hole in Shelby County. The new location is in Harrison County only a few miles west of the state line that borders Caddo Parish. It is W. T. Boyd et al's W. L. Rudd 1, John McMillan Survey, located SEc W. L. Rudd 360.8-acre tract.

Eleven East Texas New Completions Fail to Flow

Tyler, Texas.—Completion of 79 producing wells in the East Texas field during the past week included 11 wells scattered along the east flank of the structure that failed to flow. There was also a junked hole in the Smith County section of the field, making a total of 80 completions for the week.

The Joiner area, scene of the most rapid drop in reservoir pressure lately, contributed 25 producers during the week. Nine, or 36 percent of the total, failed to record a natural flow upon completion, and will be equipped to pump. Two nonflowing wells each were completed by Boren Oil Company, Goodnight-Donald Oil Corporation and W. B. Hamilton-Jenkins Brothers Interests, while Hunt Production Company, Sherman Hunt-Landrum Interests, and Magnolia Petroleum Company each contributed one well to the pumping list.

Another pumper for the east side of the Joiner area was in process of completion when Marathon Oil Company's M. A. Price 18-A cored broken sand at 3590-3613 feet and failed to flow. This edge well was swabbed an entire day in trying to convert into a natural producer, and filled with only a small amount of oil after repeated swabbing. The first test on this location was junked and abandoned at 3415 feet earlier this month.

Territory to the northeast of Kilgore added two pumpers when new completions by Navarro Oil Company and R. Olson et al failed to flow natural after drilling through the oil sand. Manahan Oil Company's S. S. Cook 6, Smith County, has skidded rig after losing hole at 3606 feet, or about 100 feet above the oil horizon.

Along with the general run of big producers on proved locations the field offered a number of wells that have failed to fulfill expectations. Lee and Burnett's Mrs. M. O. Shepherd 1, located on five-acre lease in southeast corner of the Wm. Goodwin Survey, an inside test north of Gladewater, developed 2000 feet of fluid, including 50 percent salt water when tested in sand at 3675-3678 feet.

Gulf Production Company's W. A. Ray 2, offsetting production in the structurally low section of the Upshur County, penetrated four feet of oil sand in drilling to 3581 feet, or about 3340 feet below sea level. The well was plugged back to 3576 feet and tested seven barrels of fluid per hour, flowing by heads, with about 40 percent salt water. It is located near the southwest corner of the Jas. Scott Survey, and offset by producers on the west and north.

Fla-Tex Corporation's (J. L. Meek) J. T. Jones 2, located on 10-acre lease near the south line of the Wm. King Survey and on the north rim of production in Upshur County, tested dry in sand at 3744-3745 feet, and when deepened to 3760 feet developed only a small show of oil. It is bordering on the danger line for bottom-hole water.

Completions in East Texas field during the past week follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
Joiner Area—		
Atlantic, C. Young 5-F	9000	3745
Boren Oil Co., W. H. Stoddard 5 (22-ac)	100	3638
W. H. Stoddard 7 (22-ac)	100	3645
Delano Oil Co., Neal Cooper 2 (10.48-ac)	500	3612
W. H. Gant-Garvin-Wegener, W. P. Moore 13 (134-ac)	300	3615
Goodnight-Donald Oil Corp., Frederick 3	250	3644
Frederick 4	250	3570
Gulf, T. B. Cashen 10 (127.71-ac)	8400	3813
L. P. Thrash 7 (89-ac)	8000	3739
W. B. Hamilton-Jenkins Bros., Camp 5 (30-ac)	500	3666
Camp 6 (30-ac)	250	3669
Humble, A. D. Blackwell 36-A (325.79-ac)	9200	3659
M. A. Neal 4 (64-ac)	2000	3707
Hunt Prod. Co., V. E. Reid 12 (120.1-ac)	300	3693
Sherman Hunt & Landrum, Frederick 4 (12-ac)	250	3695
Londo Oil Corp., London School 4 (3-ac)	6500	3810
C. H. Lyons et al, W. P. Moore 4 (40-ac)	2000	3576
Magnolia, W. H. McCord-Falcon 2 (10-ac)	250	3596
Manahan Oil Co., S. S. Cook 6 (25-ac)	†	3606
Alex McCutchin et al, H. Clay 2 (16-ac)	2500	3649
Petroleum Marketing Corp., A. J. Deason 3 (11.89-ac)	3600	3690
Shell, H. Brooks 15-B (174-ac)	3000	3729
Stanolind, M. O'Quinn 9 (80.35-ac)	9600	3813
J. B. Milstead-Devonian 10 (84.22-ac)	8800	3770
Texas, M. Blackwell 15 (100-ac)	7000	3695
Ward Oil Corp., Giles Bros. 8 (41.7-ac)	4000	3711
Kilgore Area—		
Adams & Lyles, L. Howard 9 (47.7-ac)	7300	3625
American-Liberty, Sabine River 29, Tr. No. 4	7600	3543
Sabine River 10, Tr. No. 7	9200	3510
Arkansas F.O. Co., Hughey-Ross 17 (220-ac)	9800	3562
E. C. Catlett et al, Scott 1	7500	3586
Coffman Prod. Co., Futch-Cooper 4 (62-ac)	9600	3718
Gulf, M. T. Cole 16 (161.51-ac)	7000	3542
Willis Holt 18 (185-ac)	9100	3604
W. G. Sexton 12 (165.58-ac)	6800	3714
Henry Oil Co., S. S. Laird 5 (8-ac)	6500	3610
Humble, L. D. Crim 126 (914.51-ac)	10,500	3652
L. D. Crim 133 (914.51-ac)	10,000	3628
S. S. Laird 60-B (568.53-ac)	5500	3625
W. D. Peterson 9 (97-ac)	3600	3622
T. D. Humphrey et al, A. Spear 4-B	3600	3597
Jones-Doss Oil Co., E. Hagler 6 (30-ac)	9000	3572
Kilgore Ref. Co., I&GN Ry. 11	4500	3597
La. Oil Ref. Corp., H. Mayfield 7 (40.38-ac)	9300	3640
Magnolia, Dick Wells 11 (100-ac)	5000	3720
Paul L. Miller et al, S. S. Laird 1-B	4200	3575
Navarro Oil Co., E. G. Green 5 (23-ac)	150	3574
R. Olson (was Powder Horn Pet. Corp.), Still 1	100	3596
Rector & Davidson, W. P. Brightwell 3 (2⅝-ac)	7600	3684
Yandell Rogers et al, Sam Williams 2-B (132.38-ac)	4500	3679
Sowell Bros. et al, C. Wells 2	7200	3656
Sultana Oil Corp., Sabine River 1-F, Tr. No. 6 (41-ac)	10,000	3552
Texas, M. T. Cole 42 (145.15-ac)	7500	3559
S. D. Walker 7 (213-ac)	3000	3591
Fox Wood et al, L. Morse 3 (5-ac)	6700	3660
Longview Area—		
Arkansas F.O. Co., W. L. Hestland 6 (36.7-ac)	8000	3632
L. E. Orms 7 (56-ac)	9300	3578
J. A. Whittaker 10 (75.52-ac)	9000	3539
Atlantic O.P. Co.-Sun Oil Co., Wm. Anderson 10 (83.27-ac)	9600	3519
Wm. Anderson 11 (83.27-ac)	9600	3524
Barnsdall Oil Co., R. E. L. Ferguson 7 (36-ac)	7600	3652
F-H-E Oil Co., B. C. Christian 14 (87-ac)	8800	3660
Galvez Oil Corp., Eva Moore 6 (51-ac)	10,000	3728
Guld Prod. Co., J. C. Judge 61 (518.3-ac)	9000	3535
W. A. Ray 2 (882-ac)	75	3581
Humble, W. W. Holland 21 (201-ac)	11,000	3595
A. L. Hughes 11 (91.8-ac)	6800	3632
W. C. Mackey 16 (198½-ac)	4600	3629
T. D. Humphrey et al, J. H. Thomas 4 (50-ac)	300	3585
Island Oil Co., J. W. Akin 7 (28½-ac)	9300	3610
Lucey Pet. Co., McBee-Fisher 9 (65-ac)	9000	3555
Magnolia, J. W. Free 23 (169.3-ac)	7300	3705
B. F. Phillips et al, J. W. Free-Humble 4 (50-ac)	3400	3704
Shell, Boston Moore 7 (47.73-ac)	8000	3600
H. W. Snowden Oil Co., C. B. Mackey 1 (25-ac)	2000	3732
Stanolind, Stuckey-Thrasher 7 (40-ac)	9000	3614
Stuckey-Thrasher 8 (40-ac)	8500	3598
Stanolind-Simms, H. Keys 11 (90.6-ac)	9100	3631
Sun, J. T. Loden 11 (100-ac)	9000	3723
T. W. M. Oil Prod. Co., Sabine River 10, Tr. No. 2	6000	3579
SMITH COUNTY—		
Alford-Deason & Kangerga, T. E. Green 1	*	4153
RED RIVER COUNTY—		
Speary et al, E. H. Thompson 1	*	2040
SHELBY COUNTY—		
Bush Oil Interests, Windham 1, W. M. Blackburn Sur	†	3366

*Failures; †Junked; ¶Million cu. ft. gas.

Seek Agua Dulce Stripping Plant Permit

Austin, Texas.—The Texon Royalty Company has applied to the railroad commission for a permit to operate a stripping plant in the Agua Dulce field in Nueces County. The case has been set for hearing on October 30.

At the same time the applicants will also seek a permit to operate a carbon black plant in the same field. Since the two applications were filed simultaneously and set for hearing together, it is assumed that the company proposes to burn the residue gas for carbon black, thus avoiding the charge that the entire residue is wasted.

New Wildcat Strike Looms in West Texas

San Angelo, Texas.—Series of saturated lime horizons carrying oil drilled during the past week by the northwestern Ector County wildcat of Landreth Production Corporation et al on the Clarence Scharbauer ranch indicated a new oil strike for West Texas. This well logged first free oil at 4102-4108 feet, and developed 600 feet of oil in the hole from lime at 4135-4145 feet, with an elevation of 3162 feet. Drilling was in progress with cable tools last week in hard lime section at 4150 feet. It is located at center of SE SE Section 20, Block 44, T-1-N, about eight miles west of the North Cowden field and 6¾ miles southeast of C. J. Davidson et al's recent oil and gas discovery on the H. E. Cummins land.

This prospective oil producer on the Scharbauer ranch is checking high on structure when correlated with a nearby failure drilled by Penn Oil Company and others. Interest has been centered on the new test since a flow of 25,000,000 cubic feet of gas was developed several weeks ago in the upper lime at 4064-4085 feet. Humble Oil & Refining Company, American-Maracaibo Company, Penn Oil Company and Devonian Oil Company are sharing in this wildcat project.

Another test is slated to be drilled shortly by Davidson et al in northwestern Ector County and within a mile of their Cummins 1, which is rated good for 25 barrels of oil and 8,000,000 cubic feet of gas daily at 4509 feet. It is now shut in awaiting a pipe line connection. The new test is to be drilled in the south one-half of Section 4, Block 45, T-1-N as result of five major companies having signified their intentions of contributing towards the drilling of a well because of having short term leases in the immediate area.

The Means area, north central Andrews County, yielded its first disappointment when Humble Oil & Refining Company's R. M. Means 2, located 1470 feet from the west and 1980 feet from the south lines of Section 6, Block A-19, P. S. L. Survey, developed hole full of sulphur water in white porous lime at 4573-4623 feet after recording small oil and gas showings in lime at 4445-4455 feet and at 4650-4565 feet. Top of lime section was reported at 4200 feet. Plans are to plug back and shoot the upper horizon, else treat the formation with acid. This test is about three-quarters of a mile northeast of the company's discovery well, which is flowing 145 barrels of 31 gravity sulphur oil daily from lime at 4472 feet.

Humble Oil & Refining Company holds a large block of leases in the Means pool, and also considerable royalty interests. Two other tests are being drilled by the company, including J. S. Means 1, a south offset to the producer, and J. S. Means 2, a recent location staked at C NE NW Section 11, Block A-35, or about two miles southeast of production. The discovery well offset was drilling below 3800 feet late last week. Honolulu Oil Corporation and Llano Oil Company's J. E. Parker 1, south central Andrews County wildcat, has shut down to re-cement 7-inch pipe to test a show of oil logged in lime at 4623-4627 feet, or about 300 feet below the top of the gray lime section.

Additional locations were authorized last week for the sandy-lime belt extending the full length of Winkler County and parallel with the east border of the Hendrick lime production area. Leases adjacent to the recent wildcat strike made by the Sayre Oil Company and Ford Bradish on the J. F. Howe tract now have five tests in prospect. Howe 1 has been pinched to five barrels per hour since gauging 564 barrels of 36 gravity sweet oil and 5,000,000 cubic feet of gas daily on October 12 from series of pay zones between 2720 and 2875 feet. The owners have not been successful in attracting a pipe line connection. Joe C. Maxwell, Fort Worth operator, Sinclair Prairie Oil Company and Mid-Continent Petroleum Corporation have authorized offsets.

The machine used in drilling Sayre Oil Company's discovery well has been moved less than three quarters of a mile northwest to drill Lum Daugherty 1, SEc S½ SE Section 2, Block 26. Magnolia Petroleum Company has started an east offset to the latter, having made location for its J. B. Walton 4, SWc Section 1. These two new tests will force offsets from Sinclair Prairie Oil Company and Sayre Oil Company in the event of commercial production. Magnolia Petroleum Company holds lease on 8000 acres out of the Walton land, with production on the north end in the Scorborough field, which also produces from sandy-lime formation. Joe C. Maxwell et al and Fox-Butler and T. J. Jeffries have commenced drilling on their tests in the sandy-lime belt opposite the Hendrick field, while a third test for this area is to be drilled by Jefferies et al immediately south of Kermit on 92 acres held by Simms Oil Company. Jefferies et al are obligated to start drilling prior to November 15 to comply with the deal made with Simms Oil Company.

Sid Richardson, Fort Worth operator with a number of rigs running on proved leases in the Scarborough and the Grand Falls areas, was credited with an oil producer in process of completion late last week on a semi-wildcat location in southern Winkler County and in the sandy-lime belt. Richardson et al's M. J. Hill 1, SWc SE Section 18, Block B-11, P. S. L. Survey, and about two miles northeast of the recent wildcat strike by Skelly Oil Company on the Halley ranch, was carrying 800 feet of oil in hole while drilling at 3166 feet. Bill Little, contractor, successfully cleared up two separate fishing jobs on this test since first oil and gas appeared at about 3150 feet. At the above depth Hill 1 is about 200 feet higher than the main pay zone in the Halley producer, indicating a steep rise in the structure should the two areas prove to be related. Richardson et al hold leases on about 4500 acres in this area.

Search for production in the Ordovician lime horizon by a large number of tests now underway in West Texas failed to offer any unusual developments during the past week. Gulf Production Company's J. T. McElroy 103, Upton County, is drilling in hard lime and chert at 10,890 feet, with progress restricted to about two feet daily because of the unusually hard formation, which wears down two rock bits daily. Schleicher County has two deep tests, and a third projected. J. M. Cooper et al's Bert Page 1, had drilled to 5815 feet, while Humble Oil & Refining Company's Ike Honig 1, was reported drilling in shale at 5350 feet. K. Kimberlin, J. D. Wesner and Proctor have received delivery on block of leases donated by Pure Oil Company and others, and plan to proceed with the drilling of a deep test in Section 6, Block "L", GH&SA Ry. Survey. John I. Moore and Loffland Brothers' McDowell 1, Glasscock County, was logging gray lime at 5720 feet, while the Reagan County project of Skelly Oil Company et al on University land was drilling below 4100 feet. In Sutton County, Paul C. Teas et al's C. E. Mower 1 has been spudded.

Dry Holes Lead North Texas Completion Work

Wichita Falls, Texas.—An aggregate of 1356 barrels of new production was added to the North Texas district through the completion of 15 pumpers during the past week. Dry holes continue to predominate among the completions, as there were 20 failures credited to the district during this period, making a total of 35 tests dropped from the current field report.

The north portion, or original sector of the Hott shallow field, Montague County, contributed an exceptionally large oil well last week when Continental Oil Company and Seitz-Comegys & Seitz, Inc.'s J. S. Hott 3-A swabbed 40 barrels of 38.4 gravity oil per hour from broken sand pay at 1618-1626 feet. It is one location south of the discovery well of the area, and rig has been skidded 450 feet east of the new well to drill Hott 4-A.

The saturated lime belt in Cooke County has one of its largest oil producers in process of completion after using chemical solution on the formation. The Texas Company's Tom Trubenback 1, located 5000 feet east and 1200 feet south of the NWc of J. Clark Survey, A-194, responded to an injection of 1100 gallons of acid in lime at 1407-1421 feet with an initial flow of 18 barrels per hour. It is making a small percentage of salt water, and will be placed on the pump.

Extension of the Green and Flowers pool, Archer County, about 3000 feet eastward recently was attained by L. T. Burns et al's A. T. Harris-Key 1, located near the southeast corner of Block 58, J. W. Harris sub-division, with production estimated at 50 barrels daily from sand at 1382-1386½ feet. Several new tests have been authorized for this area.

Detailed list of completions in North Texas for the past week follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
Accumulated Roy. Corp., S. G. Helm 1, Blk. 3	*	1503
Bridwell Oil Co., F. C. Green 8-A	20	1150
Oil Inv. Co. 16-C, Sec. 125	*	1456
L. T. Burns et al, W. R. Ball 1, Blk. 1	*	846
Burns & Long, Mankins 6, Sec. 1	*	691
Continental Oil Co., Falls 6-B	450	1110
Hamer & Scholl, J. Longley 7	200	965
W. B. Hamilton et al, John Purcell 1, Blk. 95	*	1262
Kimmell & Woofter, G. Williams 1	*	678
W. E. Maxson-Panhandle Ref. Co., Green 27-B	250	1095
Green 28-B	75	1096
Perkins-Cullum Oil Co., Falls 13-B, Blk. 21	225	1130
Falls 14-B, Blk. 34	13	1140
Rancho Oil Co., H. O. Prideaux 12, Blk. 26	*	683
The Texas Co., L. McCrory 1-C	*	1628
United Producers Co., J. J. Perkins 1, Sec. 10	*	1676
BAYLOR COUNTY—		
S. V. White et al, W. H. Portwood 4, Sec. 1281	25	1401
COOKE COUNTY—		
C. C. Lanier et al, R. Midkiff 1	*	350
H. D. Mayfield et al, J. T. Donald 1	*	800
The Texas Co., Tom Trubenback 1	300	1421
JACK COUNTY—		
Mosco, Inc., J. J. Power 1	*	420
MONTAGUE COUNTY—		
Bridwell Oil Co., Mrs. C. R. Tucker 5	30	1443
Continental Oil Co.-Seitz Bros.' J. S. Hott 3-A	300	1626
THROCKMORTON COUNTY—		
A. A. Michael et al, McKeichan 1	*	756
WICHITA COUNTY—		
R. R. Clark et al, Bickley 35	35	875
Pet. Producers Co., Allen-Kemp 46, Sec. 28	*	646
YOUNG COUNTY—		
Brazelton Bros. et al, Watson 1, Sec. 250	*	664
F. A. Clarida et al, Young Co. Lumber Co. 1	*	672
F. G. Hall et al, J. T. Lowe 1, Sec. 59	*	902
King Royalty Co., J. Larrimore 47, Sec. 2246	5	714
Medico Oil Co., E. Lesley 2, Sec. 1400	25	919
Pace-Ard & Parrott, S. L. Montgomery 2	3	515
T. G. Shaw Oil Corp., M. F. Howard 1, Sec. 224	*	1015
R. D. Watson et al, Flo Morris 1, Sec. 252	*	573
Wheeler & Brashear, G. M. Jones 1, Sec. 25	*	855

*Failures; †Junked; ¶Million cu. ft. gas.

Panhandle Natural Gasoline Output Up

Pampa, Texas.—Production of natural gasoline in Texas Panhandle amounted to slightly more than 25,000,000 gallons during September, representing a gain of about 1,469,000 gallons above the previous high mark reached in August. This increase is due to the numerous well-pressure type of absorption plants operating on so-called dry gas production having stepped up their runs, while the various natural gas trunk line companies connected to the district are striving to place a curb on such operations because the bulk of the residue gas is wasted.

Sixteen Completions In West Texas

San Angelo, Texas.—Sixteen completions credited to West Texas during the past week included 11 oil wells and five dry holes. The producers offered a combined initial output of 6730 barrels daily, with two wells each in Fisher, Ector, Ward and Winkler Counties. Jones County contributed three of the failures, while Pecos and Scurry Counties added one each.

The first completion for the Gulf-McElroy field, Crane County, in many months was reported by Gulf Production Company in completing its J. T. McElroy 104, C NW Section 187, Block "F," flowing 392 barrels during first 18 hours after shot in lime at 2680-2789 feet. Gulf Production Company has more proved locations remaining to be drilled on the McElroy ranch than any other single leasehold situated in West Texas.

Completions in West Texas during the past week follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
CRANE COUNTY—		
Gulf Prod. Co., J. T. McElroy 104	500	2789
ECTOR COUNTY—		
Phillips Pet. C., TP Land Trust 1	1225	4286
Sinclair Prairie, A. W. Wight 1	605	4270
FISHER COUNTY—		
Roeser-Pendleton, Inc., First Nat'l Bank (Waco) 2	30	3149
E. L. Smith Oil Co.-Neversuch Oil Co., Fee 3	910	3110
GLASSCOCK COUNTY—		
Steve Currie-Richmond Drl. Co., S. Turner 2	1560	2200
JONES COUNTY—		
Capitan Oil Corp., R. G. Young 1	*	2005
P. A. Clifton-P. R. Brazelton, J. F. Caffey 1	*	805
Moutray Oil Co., J. W. Holt 4	*	1985
PECOS COUNTY—		
Illinois Oil Co., University 2-B	*	1915
SCURRY COUNTY—		
H. H. Coffield-Guthrie, Inc., A. D. Dodson 1	*	3651
UPTON COUNTY—		
Thea-Botal Oil Co., Inc., J. F. Lane 2	35	2290
WARD COUNTY—		
Gulf Prod. Co., Hutchings 33	385	2782
Sid Richardson et al, Johnson-Sun 8-B	440	2582
WINKLER COUNTY—		
Sid Richardson et al, W. F. Scarborough 3-F	650	3020
Skelly Oil Co., S. M. Halley 1	390	3112

*Failures; †Junked; ¶Million cu. ft. gas.

South Texas Deep Test at 9775 Feet

San Antonio, Texas.—Amerada Petroleum Company's Halff and Oppenheimer 2, five miles southwest of the town of Pearsall in Frio County, was drilling late in the week below 9775 feet in Glenrose lime. The well now is the second deepest active operation in Texas at this time, being exceeded only by Gulf Production Company in its Upton County well, now drilling just short of 11,000 feet. How much deeper the Amerada well will be drilled has not been announced but it is possible that it will be carried on until it encounters schist.

The well has been making excellent progress considering its depth, averaging nearly 50 feet per day during the past two weeks. It is drilling in a lime section and has been almost the entire distance from about 5900 feet. The drilling is being done with a rotary rig.

The well has had several showings of oil in the Glenrose, one at 8745 feet and another at 8981 feet, both of which were tested, but failed to develop anything like commercial production, salt and sulphur water overcoming the oil and gas showings. The well has nearly 5000 feet of open hole, the last string of casing being set at 4952 feet. A string of 9⅝-inch pipe was set at that level. The only other casing in the hole is 289 feet of 15½-inch pipe.

Another Panhandle Wildcat Showing; Interest Increases

Pampa, Texas.—Reported oil and gas showings in a northeastern Moore County wildcat from dolomite lime formation near sea level depth has injected additional interest in the production trend recently outlined by two wildcat oil producers from the same horizon in northwestern Hutchinson County. This trio of wildcats are exploring a sparsely drilled area on a line between the Gulf-Dial section of the Borger district, and the Dumas-Sunray field in north central Moore County, extending along the north flank of the buried granite ridge that cuts across the Panhandle.

Phillips Petroleum Company's T. H. Flynn 1, C SE SE Section 179, Block 3-T, T&NO Ry. Survey, Moore County, gave promise of making an oil producer in developing oil showings in saturated lime at 3255-59 feet, followed by a show of gas at 3270 feet, with an elevation of 3356 feet. It was drilling below 3920 feet, according to late reports. Bottom-hole water is forecasted near sea level depth. This wildcat is about 4½ miles southeast of nearest oil production in Moore County, and about nine miles west by north of recent oil strike made in northwestern Hutchinson County by Humble Oil & Refining Company. Heretofore, the area being tested by Flynn 1 has been conceded a dry gas belt. Approximately 96-000,000 cubic feet of sulphur gas was cased off in cementing 6⅝-inch pipe at 3200 feet.

Preliminary estimates on the production of Humble Oil & Refining Company's S. J. Logan 1, which opened the Hutchinson County lime belt earlier this month, credited it with being capable of pumping 100 barrels of 36 gravity oil daily after shot of 390 quarts of nitro in lime at 3192-3270 feet. It was drilled into salt water at 3296 feet, or 18 feet above sea level, then plugged back to 3287 feet. This wildcat is about seven miles northeast of nearest oil production in the Stinnett area, but an intermediate test drilled by the Roxyana Oil Company, which is also known as the Ortex or Amtex Oil Company, has since given promise of commercial production. This midway test is on the N. A. Stevenson 640-acre lease, being 960 feet out of the northeastern corner of Section 7, Block M-24, T. C. Ry. Survey. Oil showings first appeared in saturated lime at 3185-90 feet, and at 3216-20 feet, testing two bailers of 36 gravity oil per hour. It has since been deepened to 3285 feet, or about 30 feet above sea level, with sufficient oil in the hole to indicate a commercial pumper after being given the usual shot of nitro.

A try for production in the Ordovician lime, which has proved profitable in the Big Lake field, West Texas, is being made in northeastern Moore County by Phillips Petroleum Company and associated companies within a mile of the Flynn test. This deep exploratory test is on the J. C. Wilson 160-acre lease, being at center of SE¼ Section 157, Block 3-T, and drilling was in progress below 6960 feet, according to late reports. The formation was reputed to be the Mississippian limestone, with more than 1000 feet remaining to be drilled before reaching the Ordovician, assuming that a normal section prevails.

Western Wheeler County contributed another large potential well last week when Hanlon-Buchanan, Inc., and Smith Bros. Refining Company's R. L. Harlan 4, located on north line of NW¼ Section 49, gauged 2520 barrels of high gravity oil during first 24-hour period, and 2275 feet on the second day from granite wash formation at 2513-2532 feet, or 22 feet above sea level.

The Texas Panhandle was credited with 10 oil producers and a gasser during the past week, involving an aggregate production of 5185 barrels of oil and 2,-800,000 cubic feet of gas.

Completions in the Texas Panhandle during the past week follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
CARSON COUNTY—		
Ryan Consolidaed Pet. Corp., B. F. Block 9	245	3095
GRAY COUNTY—		
Empire Gas & Fuel Co., A. J. Culler 3	245	3300
Gulf Prod. Co., R. B. Thompson 6	445	3274
Sinclair Prairie, Combs-Worley-Moody 7	995	2957
Texwell Oil Co., J. C. McConnell 1	90	3267
HUTCHINSON COUNTY—		
Stanolind O&G Co., R. C. Ware 4-C	160	3123
WHEELER COUNTY—		
Hanlon-Buchanan, Inc.-Smith Bros. Ref. Co., Harlan 4	2530	2532
Ohio Fuel Supply Co., D'Spain 4	400	2514
Piney O&G Co., J. P. Koons 2-B	30	2324
A. S. Plummer 2	45	2476
A. P. Rippey 1.	¶2.8	2150

*Failures; †Junked; ¶Million cu. ft. gas.

A view of the oil producing area south of Stinnett, Hutchinson County, Texas Panhandle, recently extended 13 miles northwest by Humble Oil & Refining Company's Logan 1, a commercial pumper at 3200 feet.

Operators Optimism That Sam Fordyce Will Be Large

San Antonio, Texas. — Tremendous recovery per acre is to be expected from the new Sam Fordyce field of Hidalgo County as a result of the thick sand bodies cored in the few wells to drill the producing horizon. The amount of drilling thus far is insufficient to indicate the size of the producing area, but the wells now on the sand have shown enough to cause a series of outpost wells to be commenced.

Those in the field are evidencing their optimism in developing a large producing area by erecting facilities to handle a large amount of oil. In addition, trunk pipe line from the field to deep water is rumored and contracts are being made on that basis.

But, the latter part of the week saw only one producing well in the field. Four had been completed, but three have been killed and are being reworked. Several more are on the sand, so the next several days will see field actually in the producing business.

The producing well is Heep Oil Corporation's Seabury George and Taylor 1, Block 254, Porcion 38, westernmost well to reach the sand. It has only seven feet of sand from 2788-95 feet and is a 40-barrel an hour well through ⅜-inch choke. The pressure is 230 pounds on the tubing and 320 on the casing, unlike the others.

Jack Clements' Guerra 1, Block 254, topped the sand at 2767 feet and is coring at 2795 feet, still in a gassy formation. Luckey, Blocker and Bishop's Guerra 1, Block 254, had the gas sand at 2722-42 feet, shale at 2742-49 feet, oil sand at 2749-55 feet and set casing at 2749 feet. Moncrief and Showers' Guerra 1, also in Block 254, made 15,000,000 cubic feet of gas and 80 barrels of oil under a pressure of 1050 pounds on the tubing and 1235 pounds on the casing, the completion being at 2795 feet. It has made a gasser in the sand at 2755-68 feet, but cored deeper to the total depth, showing saturation the last ten feet of coring. The well has been killed and deepened to 2806 feet, still in sand and again is being tested. This well has gone through a 51-foot sand section, and still in the formation.

Otto Woods' (Kinkwood Oil Company) F. B. Guerra 1, Tract 254, 1700 feet north of the discovery well in the Sam Fordyce field, is running wild, making 50,000,000 cubic feet of gas and some oil. It is at 2800 feet. The well was a producer, making seven barrels of oil per hour and showing a tremendous volume of gas, when the decision was made to

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Bridwell Oil Co., Hahl 8, Sec. 250	60	2371
Continental Oil Co., Clara Driscoll Sevier 3-A, 500 ft sl and 100 ft wl, Sec. 23, Pn 3350 ft, perf 3311-25	¶20	3710
Government Wells Oil Co., State 4, Sec. 60	720	2224
Grimm et al, Fitzsimmons 1, 330 ft sl & el Sec. 291	*	lcn.
Magnolia Pet. Co., DCRC 37, Sec. 209	240	2340
J. O. Wilson 8, Sec. 134	100	2373
Reynosa Oil Corp., Duval County Ranch 1C, Sec. 362	*	2310
G. Stewart Smith & Jeffers Oil Co., Ysidro Garcia 1, 9400 ft el, 8300 ft most southerly nl Jose Marcello Jinojose Grant	*	5258
Trapshooter Reilly Oil & Royalty Co., C. W. Hahl 2-B, Sec. 250...	40	2365
LIVE OAK COUNTY—		
Unit Oil Co., A. J. Turner 1, 330 ft nwl, 1217 ft from most northern swl of 660-ac tract, Hayes sur..	*	909
McMULLEN COUNTY—		
E. W. Hopkins, H. L. Lark 1, Blk 30, Scrugham sur	*	1060
VICTORIA COUNTY—		
The Texas Co., Jess Midgett 1, N 35 degrees w 1000 ft and s 55 degrees w of se cor lease, T & N O sur No. 14, pb 2840	¶5	5790
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BATSON—		
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BOLING—		
W. H. Schafer Co., Floyd 16.....	*	500
CONROE—		
Humble O&R Co., Dodson 1.....	216	5157
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LIVINGSTON—		
Sun Oil Co., Pratti 1.....	12	4223
MANVEL—		
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Benedum Trees Oil Co., Settegast 1	*	7165
Rio Bravo Oil Co., Settegast 12-A	*	5933
THOMPSON—		
Humble O&R Co., Lockwood-Sharp A-31 1208		5310
TOMBALL—		
Amerada Stanolind, O. Rudal 6....	600	5585
Humble O&R Co., F. J. Holdrrieth 2	508	5555
VAN VLECK—		
Skelly Oil Co., Cobb 2.....	25	7060
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Kittrell Area Test To Go Deeper

Houston.—In the new Kittrell field of Houston County, Humble Oil & Refining Company's Shaw 2, in C. McEllis Survey, 660 feet southwest of Shaw 1, which went dead some time ago, is preparing to drill deeper from 1180 feet where the operators swabbed for 12 hours and lowered fluid 800 feet. The fluid showed 95 percent oil and five percent basic sediment and water. The same operator's Texas Long Leaf Lumber Company 1, in the C. McEllis Survey was drilling at 2775 feet at the close of the week. Boone Brother's Texas Long Leaf Lumber Company 1, 733 feet south of the discovery well was drilling at 1624 feet after setting seven-inch casing at 20 feet.

In Walker County, Trinity Development Company's Knox 1, 10 miles north of the discovery well and in the Wm. Prissick Survey, was shut down for water at 1463 feet. Elevation is 326 feet.

Boone Brother's Trinity State Bank, the discovery well for the area, has produced approximately 16,500 barrels of oil to date. The well is averaging approximately 295 barrels of oil per day through choke ranging from five sixteenths, nine thirty seconds, and quarter inches size. Tubing pressure has ranged from 210 pounds to 225 pounds and the casing pressures from 685 to 725 pounds. Production is showing about five percent basic sediment and water.

Leasing Less Active

Leasing activity has taken a drop in the area since the field has had seven failures. Joe Burnham of Ft. Worth is reported to have assembled a block of 2500 acres about one mile north of Lovelady for two dollars per acre and will start a test within 90 days after the operators clear titles in the acreage. The acreage centers around the Wm. Dickerson Survey.

In Trinity County, Moore and McLaughlin of Tulsa, Oklahoma, are reported to be assembling a drilling block in the area of Apple Springs, centering in the D. Womack Survey. The operators have approximately 3500 acres in the area in which to drill a deep test. The acreage joins Trinity Lumber Company's acreage.

In Madison County, Sunray Oil Company and Texas Development Company have made location for Furguson 1, 1000 feet south and 750 feet east of the southeast corner of F. Fulcher Survey and in the I. Walker Survey. The operators were moving in material at the close of the week.

In Nacogdoches County, T. D. Humphrey, has assembled approximately 10,000 acres approximately four miles southeast of Nacogdoches, in which he will drill an 8000-foot test provided he can obtain the desired amount of acreage. One of the major oil companies now has a geophysical crew working in the area of the old Dick Schwab's dry hole in the Simpson Survey. T. D. Humphrey's acreage centers around the Schwab large lease.

Matagorda County

Houston.—In the Buckeye field of Matagorda County, United North and South Development Company's Buckeye 1, Unit 4, J. C. Keller Survey, was swabbing approximately 15 barrels of oil and salt water daily from 7881 feet. Same operators Plotner 1, Unit 14, J. C. Keller Survey, also was swabbing at 7910 feet.

In the Van Vleck field of the same county, Skelly Oil Company's Cobb 2, the second producer for the new field, on a recent gauge showed 60 barrels of oil in 16 hours through a quarter-inch choke with three percent fresh water. Tubing pressure is 1600 pounds and casing pressure is 1475 pounds. The same operators' discovery well Cobb 1, made 53 barrels in 16 hours through a quarter-inch choke, showing 24 percent salt water with a casing pressure of 1875 pounds and tubing pressure of 1675 pounds.

San Felipe Well Makes Several Flows

Houston.—Capps and Sloan's Vaughn 1, discovery well of the San Felipe area, J. McFarland Survey, flowed oil through the drill stem during the past week with screen in the hole. The well flowed approximately five and one half barrels per hour with a casing pressure of 150 pounds and then sanded up. Connections were changed and the well reopened, making 30 barrels the first hour through a three eighths-inch choke, two tenths of one percent basic sediment and water. The second hour the well made 28 barrels with a pressure of 90 pounds and then started making sand. It was killed and closed in, screen run and while coming out of the hole the well blew out.

To the east of this well J. F. Wheelis, Jr., et al have made location for Wittenburg 1, 1100 feet from the southwest line and 330 feet from the southeast line of 200.2-acre tract in the H. & T. C. Survey, Section 177, Abstract 213, approximately four and one half miles west of Sealy, in Austin County. This proposed location was reported some time ago when the above operator was working up the block for a Cockfield test in the area. Gulf Production Company, Harrison & Abercrombie, Magnolia Petroleum Company have purchased acreage around the test and have furnished bottom-hole money. The well is located north of the old Gem Oil Company's 6229-foot dry hole drilled some time ago.

In Ft. Bend County, due east of Sugar Land, Turnbull and Irwin have leased 3000 acres in the N. M. Battle and A. Hodge Survey. The acreage was owned by the State of Texas, being used for prison farms. The reported bid was $3300 in cash, one seventh out of oil and one eighth out of the gas and they agree to start a test within the next six months of October 16, 1934.

Humble Oil & Refining Company is reported to be dealing for another test in the area where the above operators and Gem Oil Company drilled a dry hole several weeks ago. Several major oil companies now are purchasing acreage in the area for $25 per acre. Humble Oil & Refining Company now is taking all open in the area of H. & T. C. Section 26 survey.

Eureka Test Said to Be Running High

Houston.—C. B. Bunte's Laurea Lackner 1, 1½ miles north of Eureka in the H. Renerman Survey of Harris County, was drilling in shale at 5720 feet at the close of the week. After running an electrical logging device the well showed reported oil sands around 3650 feet, 3695 and 4007 feet. Water sand was shown around 3708 feet, 3713, 3936, 4016 and 4245 feet. The wildcat is reported to be running high as compared to other wells drilled in the area. The test will be carried to 7500 feet. One mile to the north of the above well an oil company is reported to have taken 30 acres in the W. T. Morton Survey, paying a reported consideration of $65 per acre.

To the northwest of this test American Liberty Oil Company's Sweeney 1, W.C. R.R. Survey, Block 4, Section 12, was drilling at 6035 feet after picking up the Hockleyensis at 5484 feet and on this marker as compared to the operators abandoned hole in the area the present drilling well is running low. Elevation is 113 feet.

To the east of Houston and on the

Houston Ship Channel, Imperator Oil Company's Brooks 1, R. R. Vince Survey, was abandoned at 300 feet after being shut down at that depth for some time. It was reported the previous week that a lease broker was working up a block for a major oil company in the area of Genoa paying $10,000 for 400 acres. During the past week the party purchased 25 acres in the area for a reported consideration of $25 per acre to add to the block already under lease.

Over in the Pierce Junction field of Harris County, Benedum Trees Oil Company's Settegast 1, J. Kopman Survey, was abandoned at 6701 feet at the end of the week. The hole was carried originally to 7165 feet and was plugged back where the operators tested salt water. Massilina Pratti was topped at 6721 feet and the Hockleyensis at 6770 feet. In the same field, Gulf Production Company's Cain 10, J. Hamilton Survey, was fishing for a stuck drill stem at 6070 feet. The operators had a gas blow out at 6100 feet. It is reported that the company added a large quantity of weighted material in the hole and the drill pipe froze on the operators.

Dickinson Well Fails To Show on Test

Houston.—In the new Dickinson field of Galveston County, Humble Oil & Refining Company's Maco Stewart 1-B, in the J. Sellers Survey was drilling in shale at 8065 feet after making a drill stem test from 8003 to 8060 feet. The first test made at this depth was made in four minutes and showed 15 thribbles of mud, no showings and no pressure. The second test was made in five minutes and showed the same. The operators had a gas and oil showing from 8003 to 8012 feet. It is reported that one Houston independent oil operator purchased royalty in the Dickinson area for a cash consideration of $400 per acre base. Stewart 1, topped the Marginulina at 7052 feet and the elevation is 13 feet. From 7980 to 7990 feet the well had a showing of oil and gas, at 7994 feet a sand with an odor of oil, 7995 feet a sand with no shows, 8003 feet to 8007 feet sand showing oil and gas, 8007 feet to 8012 feet, five feet recovery which was a soft sand showing oil and gas, 8012 to 8017 feet sticky shale, 8017 to 8027 feet hard sand.

Pure Oil Company's Schelor 1, 2800 feet north of the discovery well in the B. B. B. & C. R.R. Survey, was drilling at 7456 feet. This well topped the Marginulina at 7082 feet with an elevation of 21 feet. Gillock Petroleum Company's Spoor 1, in the Dickinson area and in the W. K. Wilson Survey, was shut down at 1476 feet.

Showing Reported in Brazoria Wildcat

Houston.—Approximately three miles south of Alvin in Brazoria County, Glen L. Bruner's Truksa 1, H. & T. C. No. 7 Survey, was reported to have had a showing of oil taken on an electrical logging device from 4663 to 4708 feet. At the end of the week the operators were drilling in shale at 7474 feet, after topping Marginulina at 7145 feet. It was rumored in Houston that one of the major oil companies has offered around $50,000 cash and a consideration in oil payment for the well, however the rumor could never be confirmed.

In the Old Ocean area of Brazoria County, Harrison & Abercrombie's Bernard River Land Company 1, C. Breen Survey, was drilling in shale at 8512 feet after taking a core from 8436 to 8440 feet which contained no shows. Frio was reported topped on this test at 8436 feet. Elevation is 35 feet. On a core taken from 8455 to 8458 the operators had a showing of gas.

In the Manvel field, The Texas Company's C. W. Massey 1, H. Stevens Survey was drilling at 7858 feet to set a new deep record for the field. Heretofore the deepest test was the same operators Boff 1, which was drilled to 7809 feet before it quit. The operators are now drilling in the Dibollensis formation of the Jackson series and operators may carry this test on down to the Cockfield to test this prolific pay horizon.

Heaving Shale Apparently Penetrated at Goose Creek

Houston.—Humble Oil & Refining Company has apparently penetrated the heaving shale in Simms-Smith 80, deep test on the northeast flank of the Goose Creek field, and the hole is now being reamed to cement 8⅛-inch casing as near bottom as possible. The well was drilled to 6703 feet, and it is believed that the full thickness of troublesome shale strata has been penetrated.

The hole is being reamed by placing a bit on the bottom of the casing to be cemented near bottom. The bit will be drilled out and drilling continued after cementing operations are completed.

Elaborate preparations were made for drilling Simms-Smith 80 and the company assembled the best equipment ever used at Goose Creek in an effort to reach new depths. A 165-foot derrick, large electric mud pumps, special sub-cellar. and a long mud flow were features inaugurated for the test.

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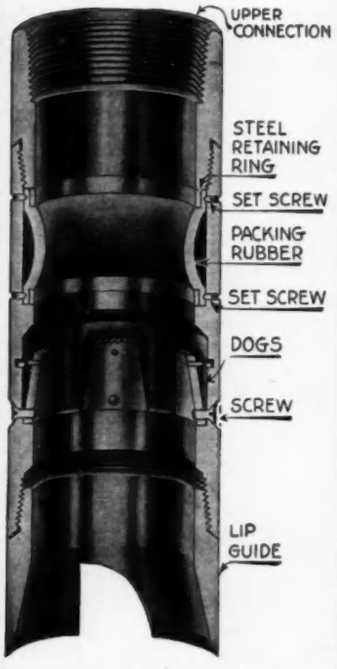

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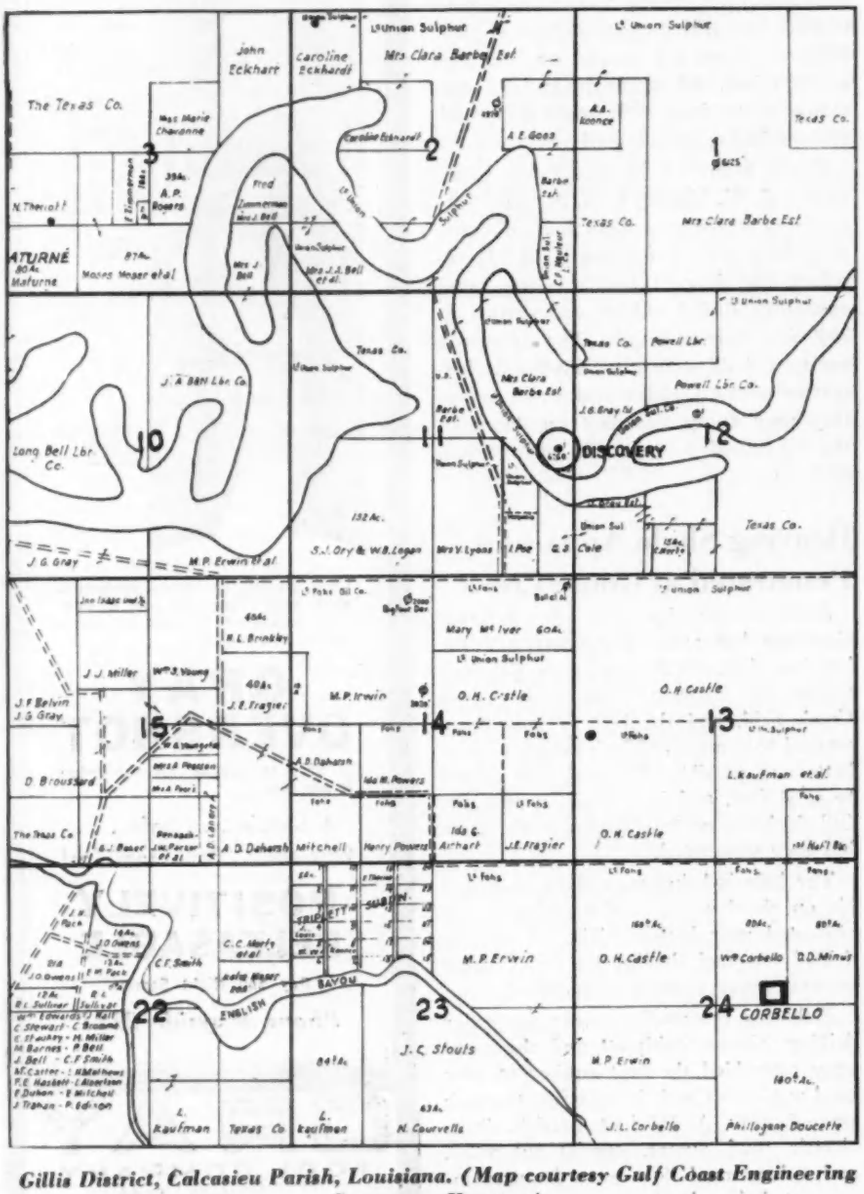
Cleveland Field Is Extended Westward

Houston. — Jack Frazier's Buffon 1, three miles south of Wilcox Oil & Gas Company's dry hole and in the James Robeson Survey of Liberty County was drilling below 6432 feet at the close of the week after taking a core from 6365 to 6373 feet that showed nothing of commercial value. There has been some reports that the well has had some showings below 5000 feet but the reports cannot be confirmed.

The well is reported to be running over 400 feet high on the geological markers as compared to other wells drilled in the area. Buffon 1, topped the Fayette at 6133 feet, Massilina Pratti around 6235 feet and the Hockleyensis at 6271 feet. Elevation is 50 feet. At 6241 feet the cores had a brackish taste. Also from 5598 to 5643 feet and from 5623 to 5639 feet.

Leasing is still at a high ebb in the area, recently a Houston operator purchased a one thirty-second royalty under the Buffon 978-acre tract in the Robeson survey for $135 per acre base. To the southwest of the well Petroleum Finance Corporation was assigned a 28-acre tract in the H. B. Johnson survey for a consideration of $100 per acre. Sun Oil Company is reported leasing spreads in the J. Young, De Cleveland Surveys north and east of the well for a consideration of $25 per acre. It is reported one of the major oil companies is contemplating purchasing a large spread from Jack Frazier near the well.

In the Cleveland field of Liberty County, Gulf Production Company brought in Kirby C-6, 1000 feet west of Kirby C-5 in the J. Pleasant Survey for approximately 22 barrels per hour through a quarter-inch choke to extend the field to the west. Tubing pressure was registered at 1325 pounds and the casing pressure at 1440 pounds. Bottom of the hole is 5856 feet. On a recent drill stem test the extension test showed 511 feet of oil and 30 feet of salty mud in eight minutes through a quarter-inch choke at 5830 feet.



Gillis District, Calcasieu Parish, Louisiana. (Map courtesy Gulf Coast Engineering Company, Houston)

Conroe Operators Want Larger Allowable

Austin, Texas. — Several operators from the Conroe field last week appeared before the Texas Railroad Commission asking for an increase in allowable.

They presented evidence to show that gas-oil ratios had increased materially since the allowable of 38,160 barrels per day had become effective on October 1.

They contended that the effect of these increases in the amount of gas used constituted physical waste and an unreasonable dissipation of reservoir energy.

They requested that an allowable of 80,000 barrels per day be granted.

Gillis Discovery Well Increases Its Flow

Lake Charles, La. — Union Sulphur Company's Barbee Estate 2, six miles northeast of Lake Charles, on the north bank of the Calcasieu River near the east line of Section 11-9s-8w, Calcasieu Parish, averaged 173 barrels of 31.4 gravity oil per day during the past week, 14 percent of which was salt water. A rather rare feature occurred on this discovery well when it came in making heads of wash water with a small percentage of oil, but later began making about 150 barrels net oil with about 45 percent salt water and with a closed in pressure of approximately 200 pounds. Subsequently, the salt water volume decreased and the pressure went up, so at present the well is flowing about 180 barrels net oil daily through a quarter-inch choke, with only approximately 16 percent salt water, and around 400 pound pressure. Although a number of theories have been advanced the exact reason for the salt water intrusion is not known.

Directly across the river from the discovery well and on the south bank of the Calcasieu River, Union Sulphur Company has acquired a lease on a small tract of 3.5 acres, paying a reported consideration of $2000 cash

bonus with an obligation to begin drilling on or before December 1, 1934. Just one well is to be drilled, and an oil payment of $2500 is to be made out of a quarter of the first oil produced, and a one thirty-second overriding royalty on all wells making 200 barrels daily or over; a one sixty-fourth royalty on pumping wells that make from 100 to 200 barrels daily; and a one ninety-sixth royalty on a well pumping less than 100 barrels daily.

Union Sulphur Company's State 1, east of the discovery well for the Gillis area and in Section 12-9s-8w, Calcasieu Parish, was drilling in shale at 4803 feet at the close of the week. Fohs Oil Company's O. H. Castle 1, Section 13-9s-8w, was a location and operators now are waiting on bids from the drilling contractors to drill the well.

New Depth Record Set For Louisiana Coast Area

Lake Charles, La. — Pure Oil Company's Alliance Trust Company 6, on the south flank of the Gueydon field of Vermilion Parish, Section 33-11s-1w, was drilling at 9379 feet after having a good showing of oil at 9223 feet, to establish a new Louisiana Gulf Coast depth record.

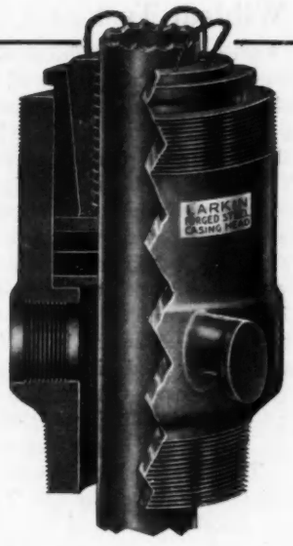
The well was spudded in January 3, 1934, and a 28-inch hole was carried to 85 feet and at that depth 85 feet of 24-inch casing was set with 30 sacks of cement. A 23½-inch hole was carried through sticky shale to 1138 feet. While running 18⅝-inch casing at that depth the pipe stuck at 910 feet and it was cemented at 910 feet with 150 sacks of cement. A 17½-inch hole was drilled to 4494 feet and the formation was sticky shale. The operators set 4494 feet of 13⅜-inch O.D. 61-pound casing. The size of the hole was reduced to 12⅜-inch which was carried down to 7671 feet and 8⅝-inch casing was set at that depth, 1500 feet of 43-pound casing was put on the bottom and 36.70 pounds on top. The operators used 6600 pounds of ice to cool the mud to 53 degrees and cemented with 500 sacks of cement. The operators took a survey of the hole at 8800 feet and it was found to be off only two degrees.

The size of hole at present is seven and half-inch and the operators todate haven't experienced any trouble. Between 9400 and 9500 feet the operators are planning to set five and three eighth-inch casing. If successful it will be the largest string of casing set in this area.

A 122-foot steel derrick is being used along with five boilers and the draw works have been changed once. The drilling conditions in the area are very satisfactory as it is high and was once used as a rice country. The geological markers on the well have been hard to determine due to the condition of the formation, which are broken, but the Oligocene was encountered above 9347 feet. To date there has been only six Louisiana Coast wells to penetrate formations below 9000 feet. Two of these have been in the Bosco field, one each at Dry Creek and Sulphur. The Texas Company's St. Martin Land Company 1, two miles northeast of Henderson, in St. Martin Parish is drilling in water sand at 9083 feet. This is the only deep test besides Pure Oil Company's well that is drilling below 9000 feet at present.

Exploring for deep production below 9000 feet in the Louisiana Gulf Coast has been made possible only through many improvements and changes in equipment and drilling practice and through wide experience accumulated in overcoming problems and obstacles of various kinds.

The Gueydan field of Vermilion



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Parish centers around sections 27 and 34-11s-1w and was discovered by Pure Oil Company by seismograph reflection and by the drilling of Alliance Trust 2, which was completed for 200 barrels daily from 3552 feet from the Miocene sands. The previous deep test in the field was Pure Oil Company's Southwest Land Company 2, which was abandoned at 8007 feet in 1931. Pure Oil Company is one of the major lease holders in the area, and recently obtained a three-months extension on its lease covering the Mulvey Irrigation Company lease of about 400 acres, paying $5 per acre for the extension, which give the right of suspending drilling obligation during that period, and if so desiring the company may further suspend drilling operations for successive periods of three months each by paying $5 per acre for such periods.

Roanoke Gets New Location and Gas Well

Lake Charles, La.—Humble Oil & Refining Company has made location for Jernigan 1, in the Roanoke field of Jefferson Davis Parish. The well is located 440 feet south and east of the NWc of Jernigan 75-acre tract in the W½ SE 12-9s-4w. The operators were refused a 90-day extension on this drilling lease. The company offered $2,000 for the extension. At the close of the week the operators were preparing to move in rig. Same operator's Devilbiss 1-B, Section 11-9s-4w, was completed as a gas well but at the close of the week there was no gauge available.

The third completed well for the new Roanoke field is now shut in. Bottom of the hole is 7918 feet. On a drill stem test at 7888 feet it showed 15 barrels of oil and mud in 10 minutes. The pressure registered 65 pounds and the oil tested 39.5 gravity. Sand was topped at 7888 feet. At Devilbiss 3, one mile southwest of the discovery well in Section 14-9s-4w, a new rig was being moved in after setting nine and five eighths-inch casing at 8304 feet. Bottom of the hole is 8746 feet. The bit is still in the hole. Same company's Kratzer 1, Section 11-9s-4w, which was completed several weeks ago as a 4,200,000 cubic foot gas well now is shut in with 3000 pounds on the tubing and 3400 pounds pressure on the casing. At the close to the week the operators were preparing to let the well blow to see if it will make any oil.

Shell Petroleum Corporation, the discoverer of the field, is having difficulty with R. C. Jarnigan 1, 660 feet due east of the discovery well. The well made approximately 10 to 12 barrels of oil, 99 percent salt water per hour at 8767 feet. The well was killed and the hole was carried to 8800 feet where a core was taken which tasted salty. At the end of the week the operators were pulling the tubing.

To the east of this field, along the narrow strip which has produced the bulk of oil for the Louisiana Gulf Coast, Strake Oil Corporation has made location for Calcasieu National Bank 1, 200 feet south and east of the NWc SE NE 12-9s-6w. At the close of the week operators were moving in material. This test will be carried to 7500 feet if necessary.

Rigging Up Calcasieu Lake Wildcat Test

Lake Charles, La.—The Texas Company's Jessen 1, on the south side of Calcasieu Lake and about 35 feet west of the Calcasieu River on a block acquired from Fohs Oil Company around St. Johns Island in Section 24-14s-10w, was rigging up at the close of the week. The operators have dredged out the west bank of the river to the location and floated a large steel drilling barge for the drilling of this 7500-foot test. A heavy drilling rig has been installed on the barge. This barge was constructed in Beaumont, Texas, by The Texas Company and is considered a foundation for a 9500- or 10,000-foot test if it is necessary for this area. This barge is the largest and most complete now owned by The Texas Company. Another barge of the same type now is under construction at Beaumont, Texas. After Jessen 1, is completed the entire rig and equipment will be towed away to another location.

No Failures Are Made In Louisiana Coast

Lake Charles, La.—There were eight completions along the Louisiana Gulf Coast during the past week and of that number seven resulted in producing wells with an initial production of 4024 barrels daily. There was one gas well and no failures reported.

Completions along the Louisiana Gulf Coast during the past week are as follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
BOSCO—		
Superior Oil Prod. Co., Hernandez 2	410	7847
L. LaBlanc 2	418	8085
EAST HACKBERRY—		
Gulf Refining Co., Irwin 15	552	6210
IOWA—		
Shell Pet. Corp., Scott 1	756	7003
LEESVILLE—		
The Texas Co., L. L. E. Leesville 24	1273	3589
ROANOKE—		
Humble O&R Co., Kratzer 1	¶4	8830
SULPHUR—		
Union Sulphur Co., Fee 770	15	4034
Fee 802	600	5506

*Failures; †Junked; ¶Million cu. ft. gas.

Many Louisiana Wells Using Acid in Completing

Shreveport, La.—Use of acid to test producing possibilities of shallow chalk horizons on the Sabine Uplift in North Louisiana, which until the discovery of the benefits of this method in the Zwolle and Converse oil fields, and the Monroe gas field in North Louisiana, had been largely passed up in drilling for deeper horizons, is becoming more and more the vogue in wildcats drilled in this area.

Last week, Dempsey & Manziel's Thigpen 1, NE SW NE 33-13n-13w, DeSoto Parish, cemented eight and one fourth-inch casing at 1660 feet; total depth is 1730 feet in chalk and acid will be used after drilling in. In the same parish, Century Oil & Drilling Company is arranging to deepen after using acid without satisfactory results in chalk at 1620 feet.

One mile east of production in the Pleasant Hill field, Sabine Parish, which has about 200 barrels daily yield from 40 producers in the Washita at 3200 feet, R. B. Campbell et al's Cook Land Company 1, NW NW 35-10n-12w, has used acid in shallow chalk after eight and one fourth-inch casing was set at 1659 feet.

In Red River Parish, C. M. Cope et al are drilling below 1920 feet in R. M. Thomas 1, NW SE 34-13n-8w, after using acid at 1678 feet. Owners said 52 barrels of 39 gravity oil was swabbed from this hole after acid was used at 1678 feet but how much of it had been put in on top of the acid and how much was real production was not determined. Owners said caving hole interrupted the swabbing after the acid was used.

Last week, Stanolind Oil & Gas Company treated two more wells in the Caddo Parish field where it recently treated six wells in the shallow chalk.

New Iberia Field

Lake Charles, La.—Harrison & Abercrombie has made location for Schwing 2, in the New Iberia field of Iberia Parish. The well is located 426 feet due east of Schwing 1, Section 56-2s-7e, which was abandoned the previous week at 2700 feet after testing oil at 2216 feet. At the close of the week the operators were rigging up and preparing to spud. Y. D. Spell's Sabitier 1, in the same area is the only other active test in the field drilling to the new discovered sand that was discovered by Y. D. Spell some time ago. At the close of the week the operators were drilling in shale at 3600 feet. The new producing sand is encountered around 3800 feet.

Blanchard Gas Field Western Limits Defined

Shreveport, Louisiana. — North Louisiana had a quiet week, recording only four completions, only one of which was a commercial well, this being a small gasser in the Nacatosh horizon of the Blanchard gas field. Two failures reported half a mile west of production in this shallow horizon of this field marked the western limits of this field. The other abandonment was a dry hole in the Zwolle chalk rock field, Sabine Parish.

Six miles south of the Rodessa gas field, Caddo Parish, which produces a wet gas from the Glen Rose at 5500-5800 feet, Ed. Bailey et al have derrick up for Hartzo 1, NWc NE NW 28-22n-16w. Rodessa now has 17 gas producers all owned by United Gas Public Service Company and Arkansas-Louisiana Pipe Line Company (Cities Service). No wells are drilling in that field at present and both companies have indicated they have no plans for any immediate tests, as the present yield of the field is sufficient to supply immediate demands. The limits of this field have not been defined in any direction.

Two new locations were made for Nacatosh tests in the Blanchard gas field, Caddo Parish, as follows: Pyramid-Louanna Oil & Gas Company's S. R. Wheeler 1, 660 feet south and west center 4-18n-16w, a derrick; and M. Segal et al's P. A. Sharpe 2, 330 south and west NEc NW NW 11-18n-16w, derrick and moving in rig.

On a 6000-acre block in DeSoto Parish, J. T. McCormick et al are moving in materials for S. C. Harris 1, 400 south and 300 west NEc SW SE 11-13n-14w. In the old Naborton field, DeSoto Parish, Ben F. Smith is rigging Bessie V. Bonds 1, SWc SE SW 23-12n-11w. In the Converse field, Sabine Parish, Helena Oil & Gas Company is rigging S. Heard 2, 330 south and east NWc NW NE 16-9n-13w.

Completions last week in North Louisiana follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH (Blanchard)—		
W. T. Boyd, M. H. Mitchell 2, 6-18n-16w	*	999
Louanna O & G Co.,, W. M. Hammock 4, 6-18n-16w	*	997
M. Segal et al, P. A. Sharpe 1, nw nw 11-18n-16w	¶1	928
SABINE PARISH, (ZWOLLE)—		
Pelican Nat. Gas Co., Sabine Lbr. Co. 14, ne sw 11-7n-12w	*	2642

*Failures; †Junked; ¶Million cu. ft. gas.

Southeast Louisiana Getting More Attention

Baton Rouge, La.—Three seismograph crews are working in West Feliciana Parish, Louisiana, bordering the Mississippi state line. Geophysical Research Corporation, Humble Oil & Refining Company, and Superior Oil Company have crews working this area.

Southeast Louisiana also is seeing some leasing activity, Kirby Petroleum Company of Houston, Texas, has acquired two blocks of approximately 20,000 acres each, one in East Feliciana Parish, and the other in West Feliciana Parish. The former block is in township 3 south, range 3 west, and the latter in township 2 south, range 3 west. The Texas Company has approximately 20,000 acres of scattered leases in St. Tammany and Washington parishes, south Louisiana.

Louisiana Operators Start 14 New Tests

Shreveport, La.—Fourteen drilling permits were issued last week by the mineral division of the Louisiana Conservation Commission. Five were for North Louisiana as follows: Bossier, one; Caddo, three, and Sabine, one. Nine were for south Louisiana as follows: Calcasieu, three; Cameron, one: Iberia, one; La Fourche, one; Plaquemines, two, and St. Landry, one.

Five Drilling Permits Issued in Arkansas

El Dorado, Arkansas. — Arkansas had five first reports last week but no completions. Three of the new tests are for the Garland City field, Miller County, and two are wildcat tests, one in Hot Springs County, and one in La Fayette County.

The three new tests for Garland City are: Duluth-Arkansas Oil Company's H. E. Beck 4, SEc SE SW 34-15-26, derrick and moving in rig; C. V. Lenz's Dale 5, 945 feet west and 440 south center 24-15-26, derrick up; and A. C. Walker et al's B. F. Smith 1, NWc NW SW 29-15-26, location.

In Hot Springs County, R. E. Morris is rigging up Morris & Lang 1, 330 north and east SWc 19-6s-17w.

In LaFayette County, A. H. and A. F. Tarver of Shreveport have taken over the 5000-acre block on which Earl F. Fox of Shreveport has recently drilled two tests on the north edge of the block and are moving in rig for Russell 1, 330 south and west NEc NW 12-17-25. This block was leased to play for a fault known to exist in that area. The two previous tests are believed to have been north of the fault and the present test, two miles south of the latest of the two former tests, is believed to be south of the fault.

Osage, Wyo.—After six weeks' lull in activity, two tests have started in the Osage light oil field near here. Irene Eaton's Fee 14, NE SW 30-46n-6w, is drilling at 400 feet. Western States Oil Company's Julius Bock 10, SW NE 14-46n-64w, is spudding.

Three Scattered Locations Made in Mississippi

Jackson, Mississippi. — Mississippi had one completion and three first reports last week. The completion was a wildcat abandonment in Warren County, which had shown a little gas. It was abandoned as dry in Wilcox at 3252 feet.

The three new locations were in three different parts of the state, one being in the Hinds County part of the Jackson gas field, one in the Delta section in Issaquena County, and the other in Harrison County on the Gulf Coast. The Hinds County locations is City of Canton's Belhaven College 2, fifty feet northwest center Section 35-6n-1e, in the city limits of Jackson. The Issaquena County location is Pelican Oil & Gasoline Company's Martin C. Bender 1, 300 feet south and east NWc 11-12n-8w. The same company several months ago drilled Steel Bayou Corporation 1, Section 14-12n-8w, to 3125 feet and lost the hole. United Gas Public Service Company had an interest in the first test and may have in the second. Contract depth on the first test was 3200 feet and that probably is the depth for the second.

In Harrison County, Big Ridge Oil Company has spudded Hingin 1, Section 13-7s-10w, cemented eight-inch casing at 60 feet and is drilling at 550 feet in sandy shale.

Mississippi's completion last week follows:

Company, Well and Location	Init. Prod. Bbls.	Depth
WARREN COUNTY—		
Harry W. Elliott et al (Orbet Drilling Co.), R. L. Parker 1, sw nw 14-14n-1e	*	3252

*Failures; †Junked; ¶Million cu. ft. gas.

"Ice Cream" Area

Walden, Colo.—Continental Oil Company's Rosa Hoye 3, NW NW NE 34-9n-78w, on South McCallum Dome, Jackson County, plugged back from 2297 feet in the heaving shale to straighten crooked hole, and is redrilling at 2140 feet. This test is on the famous "ice-cream" structure where the discovery well drilled into carbon dioxide gas and produced about 40 barrels a day of frozen, flakey crude.

Dry Creek

Billings, Mont.—Ohio Oil Company's Agnes Maddox 14, CNW NW 10-7s-21e, an outside location on the southwestern flank of the Dry Creek oil and gas field, Carbon County, was a disappointment. This week it drilled into sulphur water at 6112 feet in the top of the Lakota, and apparently has defined the southwestern limit to the field. It is plugging back to test a small show of oil encountered in the Dakota.

Cooper Operators Want to Drill 52 Additional Tests

Hobbs, New Mexico.—Formal application has been prepared by operators in the Cooper area, Lea County, for approval of the oil code authorities to start drilling on a total of 52 tests before the close of 1934. This prolific area was originally assigned a quota of 12 tests for the current year, but later expansion of development led to the quota being increased to 25 wells. The new petition takes in four additional square miles of leases equally divided on the north and south ends of the original area in order to include a recent extension producer, and a probable outpost producer on the north end.

There now are 12 completed oil wells in the revised field development plan; seven drilling tests; and 33 tentative locations.

Development work is to proceed at once on four direct and diagonal offsets to The Texas Company's I. B. Ogg 1, C SW NE 35-24s-36e, which was completed October 10 flowing 518 barrels of oil and 1,590,000 cubic feet of gas daily from lime at 3523 feet, thereby virtually closing the gap between the Cooper and North Jal fields. In event of production these scheduled tests will force a number of additional wells, because of adhering to the wide spacing plan.

Another disappointment for the east flank of the Cooper field put in its appearance last week when Gypsy Oil Company's Cooper 1, C SW NE 23-24s-36e, tested dry at 3565 feet, or 214 feet below sea level, then shut down for orders. It is a south offset to an oil producer, which was completed at 3572 feet, or 220 feet below sea level. Since no water has appeared in Gypsy Oil Company's test it will be deepened. Humble Oil & Refining Company's Thomas 1, located three quarters of a mile due south of the above doubtful test, was definitely branded the first oil failure for the field after flowing sulphur water for 48 hours. It originally was drilled into water at 3602 feet, or 262 feet below sea level, then plugged back to 3586 feet for the above test. Assured of a heavy flow of gas in the upper section of the lime, the company has ordered the hole plugged back to 3470 feet to complete as a gasser.

Completion of Phillips Petroleum Company and Pure Oil Company's C. D. Woolworth 8, C SW SE 22-24s-36e, during the past week widened the Cooper area one location to the west. It is credited with flowing 100 barrels of oil per hour through open 2½-inch tubing at 3503 feet, or 158 feet below sea level. The gas flow was estimated at 2,000,000 cubic feet daily. The same interests' Woolworth 7, C SE SW 23-24s-36e, successfully drilled by short length of drill pipe and formation tester lost in making drill stem test at 3500 feet, or 169 feet below sea level, and has cemented 5½-inch pipe at 3500 feet. Humble Oil & Refining Company's A. E. Thomas 1, an east offset to the latter, encountered an irregular condition in the oil horizon, and drilled into sulphur water at 3602 feet, or 262 feet below sea level. It has since been plugged back to 3592 feet to try for an oil well, but completion has been delayed because of boilers having been moved off to fight burning gas craters at another well.

Work was scheduled to have been resumed on Humble Oil & Refining Company et al's J. L. Coates 1, C NW NE 10-24s-36e, late last week after successfully killing gas craters formed after a gas blowout at 3355 feet. This test is about two miles north by west of nearest oil production in the Cooper area, and is counted as a probable oil producer, as the brown lime marker was logged at 2995 feet, or 388 feet above sea level, indicating a normal structural position. Kirby Petroleum Company and Edson Petroleum Company each have a one-quarter interest in the well and 160-acre tract.

Two wells in process of completion in the Eunice field were showing for small producers. Continental Oil Company and The California Company's A. E. Meyer 4-A-17, C NE SW 17-21s-36e, developed 600 feet of oil in hole after deepening to 3999 feet, or 346 feet below sea level, and is awaiting acid treatment. The fluid level could not be swabbed down. This inside location failed to respond to an injection of 2000 gallons of acid at 3975 feet, the expected producing horizon. Another erratic test is that of Shell Petroleum Corporation and Devonian Oil Company's State 1, C NW NE 20-21s-36e, which was reported coring in lime at 4107 feet, or 486 feet below sea level, with a small amount of free oil on drill stem test at 4022 feet. The entire lime section has been carefully cored and tested progressively below 3650 feet in this test.

New locations credited to the Eunice field last week included the Continental-California interests' A. E. Meyer 1-B-9, C NE SW 9-21s-36e, being the most easterly location in the area, but offsetting production. Tide Water Oil Company is rigging up to drill its fourth test on its O. L. Coleman 160-acre lease, having made location at the center of SE NE 17-21s-36e.

Utah

Rock Springs, Wyo.—Mountain Fuel Supply Company's Murphy 2, NE NE 21-3n-24e, Clay Basin gas structure, Daggett County, northeastern Utah, is drilling out plug with the 8⅝-inch casing cemented at 5267 feet on top of the Dakota. Cores revealed good gas saturation.

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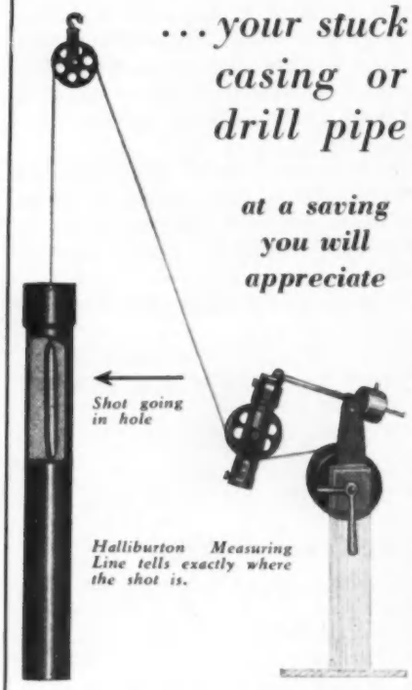

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Mountain States Completions

MONTANA

Company, Well and Location	Init. Prod. Bbls.	Depth
GLACIER COUNTY (Cut Bank Field)—		
Santa Rita Oil & Gas Co. Cardwell 4, ne ne 22-35n-6w	416	2880
Montana Power Gas Co., Scheuren 1, sw sw 21-33n-5w	150	2880
Lon Crumley, Jones 1, nw se 31-34n-5w	70	2890
Montana Headlight Oil Co., Yunck 2, sw sw 1-34n-6w	*	2795
TOOLE COUNTY (Kevin Sunburst Field)—		
A. E. Beardsley, Swears 3, cse nw 9-35n-2w	100	1651

WYOMING

FREMONT COUNTY—		
Mid-America Oil Co., Government 1, ne sw 4-28n-92w	*	3460
Sidney H. Keoughan and Monongahela Oil Co., Jones 1-A, nw nw nw 7-28n-92w	*	1136

NEW MEXICO

LEA COUNTY (Cooper Field)—		
Phillips Pet. Co.-Pure Oil Co., C. D. Woolworth 8, c sw se 22-24s-36e	¶2-3600	3503
LEA COUNTY (Eunice Field)—		
Tide Water Oil Co., O. L. Coleman 3, c ne ne 17-21s-36e	¶¾-935	3925
LEA COUNTY (Hobbs Field)—		
Shell Pet. Corp., Sanger Inv. Co. 1, swc 27-18s-38e	2500	4229

Sinclair Wyoming Subsidiary to Casper

Casper, Wyo.—Sinclair Wyoming Oil Company, a subsidiary of Sinclair Prairie Oil Company, which takes the place of the old Producers & Refiners Corporation, is moving its headquarters for production and pipe line from Parco, Wyoming, to Casper. Offices will be in the Continental Supply Company building.

W. L. Connelly, chairman of the board of Sinclair Prairie Oil Company,was in Casper this week supervising the change. C. H. Rutherford will remain here as superintendent of production and Clyde Parrish will be superintendent of the pipe line department. Reason for the change was given that Casper is more centrally located as to the company's holdings in the Salt Creek and Lost Soldier fields.

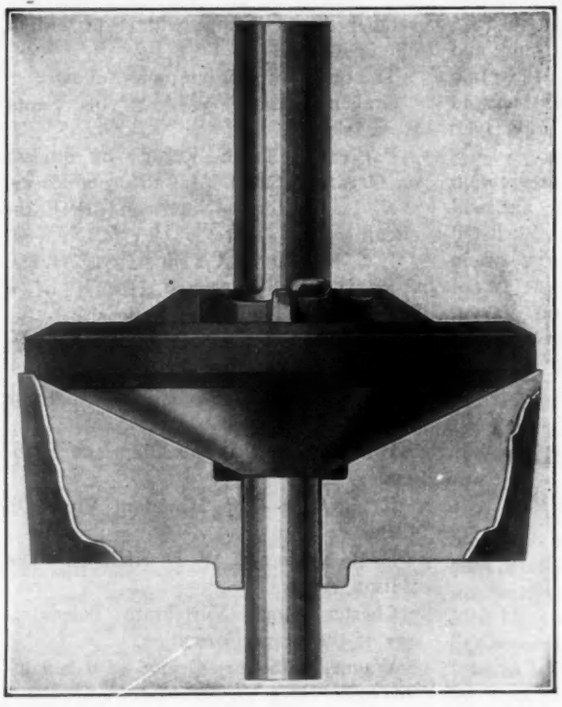
The company is on an extensive cleaning out program in old wells in both fields on property acquired from Producers & Refiners Corporation. In the Lost Soldier field, Sweetwater County, the company is drilling a new well, Government 76, CSW SW NW 11-26n-90w, which is waiting on cement to set around 15-inch at 332 feet. Four cleaning out jobs in the field report as follows: No. 28-S, NW SE NE 10-26n-90w, waiting on cement at 655 feet. No. 46-A, CSE SE SE 3-26n-90w, rigging up to pull 5 3/16-inch liner and clean with total depth at 1782 feet. No. 51-A, CSW SW 11-26n-90w, drilling at 466 feet in sandy shale. No. 60, CSE SE 3-26n-90w, standing at 1901 feet.

In the Salt Creek field, the company is cleaning out and deepening six old wells, which report as follows: No. 1-C, NE NW NW 12-39n-79w, bailing at 2235 feet. No. 1-O, NW SW NW 18-40n-78w, bailing at 2505 feet. No. 4-J, NE SE SE 30-40-78, cleaning out and sidetracking iron at 2320 feet. No. 8-J, CNE NE SE 30-40n-78w, sidetracking iron at 2515 feet. No. 1-N, CSW SW SE 18-40n-78w, sidetracking iron 2690 feet. No. 5-F, NE SE NW 19-40n-78w, cleaning out at 2500 feet. No. 12-P, CSW SW SW 20-39n-79w, bailing at 2840 feet.

Colorado

Craig, Colo.—Stanolind Oil & Gas Company is drilling at 1740 feet in Parkinson 14-SD, NE SW 22-4n-92w, in the Iles Dome field, Moffat County, and has cellar dug for Shaw 22-SD, NW SE NW 27-4n-92w.

The Texas Company's Van Schaick 1, CSW SW SW 19-12n-100w, Hiawatha gas field, Moffat County, is drilling out plug with the 6⅝-inch cemented at 2100 feet. Quaintance-Hocking 8, NE SW NE 18-6n-86w, in the old Tow Creek field, Routt County, is cementing eight-inch casing at 2245 feet.



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Mountain View Field Increases Activity

Los Angeles.—The major companies of California seem to feel the Mountain View field in Kern County, near Bakersfield, has a fairly good future, as five of the actively drilling six are drilling there.

Union Oil Company has been interested some time and now is drilling one well at 2900 feet and has rig up for another. The Texas Company's Mateo Smith 3 is drilling at 4460 feet in shale and has rig up for No. 4.

Standard Oil Company of California is drilling four holes. Nichols Community 2 stopped drilling in oil sand at 5420 feet and has cemented nine-inch casing at 5375 feet. Ranton 3 is drilling in sand and shale at 4910 feet. Wible 1 in Section 23-30-28, stopped drilling at 5449 feet and cemented nine-inch casing at 5408 feet. Wible 2 is drilling at 2555 feet.

Associated Oil Company made location for Nunez 1 in Section 14-30-28 and will be drilling before November 1. Shell Oil Company actually found the first oil in the field, but at the present time is not drilling. It still retains an interest in several leases, operated by others.

Two new wells were spudded the past week.

Deeper Zone Productive In the Seal Beach Pool

Los Angeles.—The deepening of an old well at Seal Beach to the McGrath zone for 1590 barrels of 28.7 gravity clean oil has turned new attention to this old field in the Los Angeles Basin. Associated Oil Company's Bryant 12 was drilled to 6467 feet. String of 6⅝-inch casing was cemented at 5843 feet, and the flow is through 640 feet of five-inch perforated pipe, which was landed at 6460 feet.

Belridge Due to Get Another Completion

Los Angeles.—Belridge Oil Company's No. 16-35 in the Belridge field in Kern County, with bottom at 8405 feet, after topping the deep pay at 8390 feet, now is standing cemented with 8⅝-inch casing landed at 8388 feet. It is likely this will be the next well to be completed in the deep zone.

Union Oil Company's Belridge 18 reached 8523 feet when a fishing job developed. A whipstock was lost in the hole, but has been recovered and work will go ahead.

Standard Oil Company of California's McPhail 1-A is drilling at 2885 feet in brown shale after 18⅝-inch casing was cemented at 1229 feet. It is to be a deep test. Continental Oil Company's Result 5 is drilling at 7430 feet in hard shale with 11¾-inch pipe string cemented at 2037 feet. Casa Mira Oil Company's Theta 1-A has reached 6275 feet in shale streaked with sand. This hole has 8⅝-inch pipe cemented at 4400 feet.

Belridge Oil Company's No. 10-35 is down to 4640 feet in brown shale.

Pacific Geologists Arrange Program

Los Angeles.—The Pacific Section of the American Association of Petroleum Geologists will hold its annual session in Los Angeles at the Mayfair Hotel November 8 and 9, and will close with a dinner dance.

The tentative program is as follows:

Graham Moody—Geology of Santa Rosa Island.

Parker D. Trask—Results of Studies on Organic Content of California Rocks.

N. L. Taliferro—Notes on the Franciscan.

J. C. Nomland—A Trip Across Arabia.

R. D. Reed—Tertiary History of a Part of the Transverse Ranges.

L. M. Clark and Alex Clark—The Vaqueros in the Temblor Range.

R. M. Kleinpell—Discussion of Miocene History and Faunas.

Hubert Schenck—The Oligocene Problem.

K. L. Gow—The Mountain View Oil Field.

E. B. Noble and W. D. Kleinpell—The Edison Area.

Chester Stock—Vertebrate Paleontology of the Sespe Formation.

Wayne Galligher—Origin of Glauconite.

Olaf P. Jenkins—Progress of the State Geologic Map of California.

Thursday Evening—Paleontological Meeting

Hubert Schenck—What Is the Vaqueros Formation of California and Is It Oligocene?

Friday Evening

Dinner dance at the Mayfair Hotel.

Oil Field Workers Receive Back Pay

Los Angeles.—Oil workers of California have received checks from the companies they are employed by covering their retroactive back pay. Practically all the larger and more important oil companies have completed the job of mailing out the pay checks.

It has been estimated that more than a half million dollars were thus distributed in Southern California alone.

First Deep Zone Oiler Completed at Edison

Los Angeles.—The new Edison field in Kern County attracted much attention of late, due to the completion of the Edison Oil Company's Fairchilds 1 in Section 15-30-29 for 2400 barrels of 28.8 gravity oil and about 300,000 cubic feet of gas at 3637 feet for the first commercial well in the deep zone. The flush production was larger than had been expected.

Other wells have been drilled in this field to the so-called deep zone, but they would not flow. In one or two instances cores did not show the presence of an oil sand. Geologists do not seem to be agreed as to the "why" of the deep zone.

Interest is now centered in Lee Oil Company's Edison-Seale 5-1, Section 5-30-29, an outpost test for the field, which is coring at about 3900 feet. Information is being refused, but it is understood that cores from below 3700 feet showed fine oil sand in the shale. String of casing is to be cemented during the coming week and a production test is expected.

The field now has six drilling wells, three rigs and two locations. General Petroleum Corporation and Shell Oil Company are the only two major companies active in the field at present, but it is understood others of larger companies may decide to drill also.

Ten California Completions Produce

Los Angeles.—Ten late California completions furnished 17,085 barrels of flush production. Three good wells were credited to Mountain View. One new well at Edison in Kern County started out making close to 3000 barrels of 30 gravity oil. Union Oil Company's new producer at Kettleman Hills had a flush production of 8650 barrels of 38 gravity oil and 15,000,000 cubic feet of gas at 8640 feet.

Other completions were routine, and follow:

Company, Well and Location	Init. Prod. Bbls.	Depth
DOMINGUEZ—		
Shell Oil Co., Reyes 56	750	5871
LONG BEACH—		
Bernal Oil Co., No. 1	250	5600
Bush Oil Co., Bess 4	130	5370
MONTEBELLO—		
St. Helens Pet. Corp., P & B 6	200	7038
SANTA FE SPRINGS—		
Union Oil Co., Bell 70	55	4546
KETTLEMAN HILLS—		
Union Oil Co., King 7	8650	8640
EDISON—		
Edison Oil Co., C.C.M.O. 1	2975	3637
MOUNTAIN VIEW—		
Barnsdall Oil Co., Morris 1	1675	5615
Hogan Pet. Co., Porter Day 4	1000	6166
The Texas Co., Mateo Smith 1	2400	5540

*Failures; †Junked; ¶Million cu. ft. gas.

California Companies Increase Drilling

Los Angeles.—A check of a drilling report for the State of California as of October 13 makes it very plain that oil companies, especially the larger ones, are entering into a program of increased drilling activity which probably will show further increases during the next few months, at least.

A check covering the six major oil companies of California, indicates they have increased their drilling activity more than 100 percent the past 12 months and this check did not include locations or rigs, only actively drilling wells being included. It is very probable that some 10 to 15 new wells will be started in the next few weeks by the six companies checked. The drilling wells include both proven territory and wildcats.

Standard Oil Company of California easily leads with a total of 34 strings of tools in operation compared with only 18 wells drilling 12 months ago. Most of the 18 drilling wells last year were at Kettleman Hills.

Shell Oil Company is second with 23 wells drilling on October 13 against only seven a year ago. Union Oil Company is third with 19 holes drilling, an increase of eight over the same date last year.

Associated Oil Company on October 13 this year was drilling 14 wells, five more than on same date in 1933. General Petroleum Corporation was drilling only five wells in October, 1933, and now has nine strings running.

The Texas Company in October last year was not drilling a well and this year has eight strings of tools going. Kettleman North Dome Association was drilling 11 wells at Kettleman Hills in October this year, the same number as one year ago.

There are approximately 210 wells drilling in California at this time, and of this number, the six major companies named are drilling 107 of them. The Richfield Oil Company is drilling no wells at this time.

The more important independent oil companies of the states are also increasing their drilling activities, largely in the area north of Ventura County.

Another interesting fact in the drilling activity of California is that most of small financially weak companies have dropped out of the picture. Manufacturers of oil tools can now sell at least 75 percent of the companies operating without worry as to their credit.

This was not true during the drilling boom at Venice and in some of the other townlot fields in Southern California. Also practically all second-hand equipment has been used up and most of the present drilling wells are using good equipment, much of which is new.

A.P.I. SPECIAL TRAIN

Los Angeles.—Preparations for attending the annual meeting of the American Petroleum Institute in Dallas, Texas, November 12-16, are being made by nearly a hundred southern California oil men. This year's meeting holds special importance for Californians, because at it an invitation to hold next year's meeting in Los Angeles will be presented on behalf of the California industry by the California Oil and Gas Association.

The California delegation has chartered a special train, which will leave Los Angeles on Friday, November 9, arriving at Dallas just before the opening session of the institute. On the way, however, a stopover of more than eight hours on Saturday afternoon at El Paso has been arranged. Arrangements for the train are likewise being handled through the California association.

More California Wells on Production Since 1928

Los Angeles.—As of the close of last August, there were 11,260 oil wells on production and 4390 wells were shut in or idle, but capable of being produced, in California.

This is the greatest number of wells on production in the state since 1928, when there were 11,281 producers in January of that year. The year 1927 was the biggest year in the state when 11,405 wells were being produced in January.

Here are the figures for past years, using A.P.I. figures for January of each year.

1933	8948
1932	8727
1931	9387
1930	10,386
1929	10,750
1928	11,281
1927	11,405
1926	11,108

Figures for January, 1925, are not available, but the average number of wells on production throughout that year was 11,393, and some months that year probably exceeded January of 1927.

As of August this year, six major companies of California had about 8100 wells on production leaving only 3160 wells for the various other producing companies of the state. Many are credited with only one or two wells, although the state has 125 producing companies with more than 10 and less than 50 wells on production.

California Natural Gasoline Association Meeting Nov. 1

Signalizing eight years of successful cooperative activity, the California Natural Gasoline Association will hold a one day Fall Meeting at the Los Angeles Biltmore Hotel on Thursday, November 1, beginning at 9 o'clock in the morning.

The morning session, under the direction of P. S. Magruder will consider reports from various committee chairmen covering the association's cooperative technical studies on problems affecting the natural gasoline industry. Arranged in a novel and interesting manner the session will reveal the history, present status and future plans for such problems as:

(a) Gas Deviations from Boyle's Law.
(b) Vapor Pressure of Absorption Oils.
(c) New Developments in Charcoal Test Procedure.
(d) Progress in the Standardization of correct methods of Gas Measurement.
(e) Preparations for the Developments of a Table of Physical Constants for Natural Gas Hydrocarbons.
(f) Development of a Procedure for Correctly Gauging Tank Trucks.
(g) A.S.T.M. Natural Gasoline Distillation Procedure.
(h) Reid Vapor Pressure Test.
(i) Specific Gravity Determinations.

At the afternoon session Dr. W. N. Lacey, professor of chemical engineering at the California Institute of Technology, will be the principal speaker and will deliver a paper on the subject: "Properties of Propane." This presentation will be of great interest to natural gasoline men, refiners, research and liquefied petroleum gas engineers, plant operators, and chemists. Based upon experimental findings on work done for the A.P.I. the paper will reveal a wealth of information which those engaged in gas work have long wished was available for practical use. Dr. Lacey intends to explain his findings in a manner which will show the various steps to be taken in attempting to apply propane data in a practical way to plant and engineering problems.

Supplementing Dr. Lacey's paper will be a series of short papers by E. R. Cox, E. G. Ragatz, W. L. Rifenberick, H. N. Wade, Frank West and others, bringing out the practical application of propane and related data to the solving of natural gasoline, liquefied petroleum gas, and vapor recovery plant problems.

The evening session will be given over to a banquet at 6:30 o'clock followed by entertainment.

Flow of Rank Michigan Wildcat Causes Excitement

Mt. Pleasant, Mich.—M. F. Whitehill's Kintner 1, Gladwin County, Beaverton township (17n-2w), NW NW Section 11, started flowing in heads late Saturday afternoon, October 20, from 3967 feet and produced an estimated 160 to 200 barrels of 41.1 gravity oil the first 48 hours on production. The test, located in virgin wildcat territory, now looms as the most outstanding wildcat development in Michigan since the bringing in of C. W. Teater's Otway 2, on February 28, 1932, the discovery test in the Porter pool of Midland County.

Oil company scouts were barred from the Kintner test after it came in to production and information assembled on the test even now is subject to later correction. Operators did not make a log on the drilling available.

Analysis of oil samples and samples of the producing formation had not been made up to Tuesday, October 23, and it could not be definitely ascertained whether the test is producing from the Dundee lime or the Upper Monroe lime. Physical appearance of the oil samples correspond to crude from Dundee lime pools of Central Michigan.

Operators had applied for a permit to plug and abandon on October 19, Friday, and ordered drillers to suspend operations on the next screw drilled the following Saturday afternoon. It was in this screw that first gas was encountered, reportedly at 3965 feet, beneath a slate break. The test was bottomed at 3967 feet, approximately and it started to fill with oil. Two hours after tools were lifted the well flowed for 12 minutes through an open 5 3/16-inch casing. It flowed again the following morning, October 21.

The first 48 hours on production, after a control head had been placed and production carried through a two-inch pipe to tanks, it produced an estimated 165 barrels, flowing about every 20 to 40 minutes with flows lasting about 5 to 8 minutes.

There is little to check the well against, the nearest test being about 12 miles. The test is located about 19 miles straight north of the Chippewa-Greendale pool and about 16 miles northeast of the Vernon pool.

Available data indicates that the test is producing from a structurally low area. It has an elevation of 730 feet or a minnus production level of 3210 feet, if the "top" depth of 3940 feet is correct. This would place the pay formation about 300 feet lower than the Vernon Dundee pool and about 400 feet lower than the Chippewa-Greendale pool.

Without any test holes within a radius of several miles considerable geology has yet to be worked out to determine the importance of the development.

M. F. Whitehill, Sr., of Little Washington, Pa., reportedly has under lease approximately 16,000 acres here, with about 4000 acres in the immediate area of the test. It was the first test he had drilled in Michigan, although an old time operator in the east.

Other sizeable blocks of acreage in Gladwin County are held by the Sun Oil Company, the Shell Petroleum Corporation and the East Ohio Refining Company. A few independent companies have smaller tracts checkerboarded.

News of the strike pitched excitement here to its highest point in months and brought a rush of oil company representatives into the area to pick up any open acreage. In the opinion of many operators the strike will start a major testing campaign in the area, Michigan being ripe for a play for a number of factors.

No major oil pool has been opened since the Porter pool discovery in 1932. Most companies holding acreage in that area, which now appears definitely defined, have drilled up their proven acreage largely with the exception of Pure Oil Company. Montcalm County was played heavily in mid-summer after an oil strike in the Traverse limestone but subsequent exploration has failed to extend the proven area beyond a small area and has failed to show Dundee or deep production.

Ogemaw County, which was explored considerably a year ago and then declined, now is staging a comeback due to opening several small Dundee lime wells. The play, however, has not gained big headway and the Pure Oil Company, original holders of large blocks of acreage and pioneer developers, sold out their holdings.

Michigan operators, seeing into the future, are anxious to have a new deep production area in sight to be ready when the flush production of the chief pool, Porter, starts its decline, a condition already set in.

Another factor indicating that a drilling play will be launched is that the Beaverton well appears on an entirely new structure. With the exception of the Ogemaw area, this marks the first Dundee or Monroe commercial oil production encountered in Central Michigan off the originally established southeast trend structure on which the Vernon, Leaton, Chippewa-Greendale, Yost-Jasper and Porter pools are located.

It could not be definitely learned but it was reliably reported that the operators on the test will use acid treatment at the present depth before possibly deepening to determine greater production or the water level.

COMPLETIONS

Company, Well and Location	Init. Prod. Bbls.	Depth
MIDLAND COUNTY—		
Pure Oil Co., Neitzke 1, 13n-1w, nw nw nw 28	35	3450
Gordon Oil Co., Muscott 5, 13n-1w, nw ne ne 17	92	3427
Finch Sisters 2, 13n-1w, nw ne nw 28	35	3440
Strange & Fortney, Campbell 8, 13n-1w, nw ne se 18	2400	3415
Atha Oil Co.'s Moran 1, 13n-1e, c-e½ se-23	15	3481

*Failures; †Junked; ¶Million cu. ft. gas.

Five Cut Bank Tests Near Completion

Cut Bank, Mont.—Five wells were near completions in the Cut Bank field, Glacier County, at the close of the week. Three tests changed location from the center of 40-acre tracts, the usual spacing for locating wells in the field. There were no completions or new tests started.

Lon Crumley's Jones 1, CNW SE 31-34n-5w, is drilling in with seven-inch production string set at 2725 feet. Total depth is 2730 feet with considerable oil showing. Montana Headlight Company is drilling out plug with seven-inch casing at 2735 feet in Yunck 3, SW SW 1-34n-6w.

After testing 2,000,000 cubic feet daily, Montana Power Company's DeZort 1, S½ S½ 23-35n-5w, is cementing 6⅝-inch casing at 2750 feet. Santa Rita Oil & Gas Company is waiting on cement to set around seven-inch casing at 2850 feet in Cardwell 4, center Lot 1, Section 22-35n-6w. The Texas Company's Jones 1, CNE NE 6-33n-5w, is coring at 2840 feet and showing good saturation.

C. P. Castle changed location of State 1, CSW SW 36-35n-6w, to southwest corner of the section, and is rigging up. A. B. Cobb's Walburge 4 was then changed from the center of SE SE 35-35n-6w, to the southeast corner of the section to directly offset the Castle-State well. The Texas Company abandoned Purdy 5, CNW SW 35-35n-6w, at 300 feet, and has skidded rig 500 feet to the east.

Drilling Reports on Important Wildcats

CALIFORNIA

KERN COUNTY

BLACKWELL'S CORNER—Amerada Pet. Corp.'s Beer 1, 17-26-19, td 2723 ft, cemented 9-in 2540 ft, dr out and testing by stages.

COMANCHE POINT—Comanche Oil Co.'s No. 1, 15-32-29, sd 4325 ft. Tejon Ridge Oil Co.'s No. 1, 23-32-29, dr hard shell 1213 ft.

McFARLAND—Home Corp.'s Jessup et al 1, 16-26-27, sd 2102 ft.

McKITTRICK—Standard Oil Co.'s No. 45, 15-30-22, td 5015 ft, no oil show and may abn. Welport Oil Co.'s No. 106, 26-29-21, td 990 ft, bailing.

MT. POSO—Ohio Oil Co.'s Brown 1, 22-27-27, recmtd 8⅝-in 1339 ft, td 1363 ft.

PREMIER—Buckeye Union Oil Co.'s New Hope 1, 11-27-27, to spud.

NO. SEMITROPIC—S. T. Alexander's Shields 1, 29-25-21, sd 1426 ft.

PIONEER ANTICLINE—Fisher & Weldon's Harris 1, 35-11-23, sd 1156 ft.

SEMITROPIC—Standard Oil Co.'s Hill 1, 8-27-23, rig.

SO. BUTTONWILLOW—101 Oil Co.'s No. 1, 5-30-24, preparing to spud.

TEMBLOR HILLS—Robt. Foster's No. 1, 2-32-22, sd 1975 ft.

WHEELER RIDGE—Badger Oil Co.'s El Tejon 1, 31-11-19, td 6229 ft, formation tester to 6000 ft and recovered small show of gas.

WEED PATCH—Associated Oil Co.'s Di-Giorgio 1, 3-31-29, dr sandy shale 1420 ft.

KINGS COUNTY

ALPAUGH—Trico Oil & Gas Co.'s Magee & Stone 1, 33-24-22, sd 3717 ft; Magee & Stone 2, 3-25-23, td 2476 ft, tester showed some gas.

DUDLEY RIDGE—Dudley Ridge Dev. Co.'s No. 1, 24-23-20, rig.

TULARE LAKE—Commonwealth Cons. Gas Co.'s No. 2, 21-22-20, rur.

FRESNO COUNTY

CAUTAU CREEK—G & E Dev. Co.'s No. 1, 36-16-14, rotary rig. Western Gulf Oil Co.'s S P L 2, 11-17-15, coring shale 6640 ft.

DOS PALOS—Bergman Oil Co.'s Ora Loma Farms 1, 12-12-11, td 6006 ft, redr to 5390 ft, sd. Russ Oil Synd's No. 1, 28-12-11, sd 4370 ft.

COALINGA—Texas Co.'s Circle Oil Co. 1, 35-20-14, grading lcn.

HUMBOLDT COUNTY

TABLE BLUFF—Texas Co.'s No. 1, 1-3-2, lcn.

MADERA COUNTY

DOS PALOS—Pure Oil Co.'s Chowchilla 1, 7-10-14, running tester 8210 ft.

SACRAMENTO COUNTY

CLAY STATION—Great American Pet. Co.'s Howard 1, 25-2-8, dr blue shale 1102 ft.

SAN JOAQUIN COUNTY

TRACY—Milham Explo. Co.'s Moy 2, 24-3-4, dr shale 1738 ft, sg.

TULARE COUNTY

ALPAUGH—Mastodon Oil Co.'s No. 1, 27-24-23, ru & sd.

YOLO COUNTY

GUINDA—Pacific Northern Oil & Gas Co.'s No. 1, 23-12-3, sd 6770+ ft.

SANTA BARBARA COUNTY

GOLETA—Shell Oil Co.'s Bishop 1, 20-4-28, to test 4325 ft.

LOMPOC—Lompoc Pet. Co.'s Beauterbough 2, 18-7-34, fsh 2975 ft.

LOS ALAMOS—Petroleum Securities Co.'s Hancock 1, 31-8-32, sd 4808 ft.

SISQUOC—Royalties Service Corp.'s Sisquoc 1, 35-9-32, dr brown shale 3250 ft.

SANTA MARIA—Union Oil Co.'s Moretti 1, 24-10-34, sd 2389 ft.

SUMMERLAND—Ortega Oil Co.'s Williams 1, 16-4-26, dr red shale 4035 ft.

SAN LUIS OBISPO COUNTY

CHOLAME—Willett Oil Assn's Jack 2, 10-25-15, dr shale 2480 ft.

TEMBLOR HILLS—Midway-Peck Oil Co.'s No. 1, 3-32-22, sd 1592 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

* —*dry hole abandoned well.*	owdd —*old well drilling deeper.*
‡ —*salt water (completions).*	owpb —*old well plugging back.*
† —*junked and abandoned.*	pb —*plugged back or plugging back.*
¶ —*million feet of gas.*	r —*reaming.*
abd —*abandoned.*	rog —*rig on the ground.*
bbls —*barrels.*	rur —*rigging up rotary tools.*
br —*building rig.*	rust —*rigging up standard tools.*
b.s. —*basic sediment.*	sd —*shut down.*
csg —*casing.*	sdtr —*sidetracking.*
co —*cleaning out.*	sg —*show gas.*
dd —*drilling deeper.*	si —*shut in.*
dk —*derrick.*	so —*show oil.*
dr —*drilling.*	so & g —*show oil and gas.*
fsg —*fishing.*	spd —*spudding.*
ft —*feet.*	sr —*straight reaming.*
hfw —*hole full of water.*	sw —*salt water.*
in —*inches.*	td —*total depth.*
lcn —*location.*	ur —*underreaming.*
m —*milling.*	wih —*water in the hole.*
mim —*moving in materials.*	wo —*workover.*
mit —*moving in tools.*	wocs —*waiting on cement to set.*
mot —*milling on tools.*	wosr —*waiting on standing rig.*
n, s, e, w, —*north, south, east, west.*	
oih —*oil in hole.*	

VENTURA COUNTY

BARDSDALE—Daniel Fisher's Elkins 1, 5-3-19, dr shale 350 ft.

LAS POSAS—Las Posas Pet. Co.'s Moleau 1, 22-3-20, fsh liner, td 7370 ft.

OJAI—Continental Oil Co.'s Pirie 1, 12-4-23, rur. A. N. Macrate's Cosmon 1, 27-4-23, sd 5541 ft. Rancho Oil's Rancho Santa Ana 1, 18-4-23, dr shale 2200 ft.

PIRU—Piru Oil Co.'s Holser 1, 14-4-18, dr hard shale 1615 ft.

RINCON—Woodrow Pet. Corp.'s Woodrow 1, 4-3-24, sd 7615 ft.

SANTA PAULA—Edward M. Lesperance's Boosey 1, 31-4-20, rur. J. W. Mosher's No. 1, 22-4-21, r 2290 ft.

SANTA SUSANA—E. N. Dakes' No. 1, 6-2-17, sd 300 ft.

SHIELD'S CANYON—Texas Co.'s Shields 128, 4-3-19, td 4215 ft, tester at 4085-4150 ft showed water.

SULPHUR MOUNTAIN—Wm. A. Kirk's No. 5, 21-4-22, td 2400 ft, plug 2370 ft; pumping 20 bbls 18 gravity oil, cut 80 percent.

SOUTHERN CALIFORNIA

ATHENS AREA—Woodward Oil Co.'s No. 1, 12-3-14, sd 5545 ft.

BREA CANYON — Pressel - Perry - Tull's Baird 1, 30-2-9, dr hard sandstone 3730 ft.

CARBON CANYON—Tehama Pet. Corp.'s Kramer 1, 33-2-8, td 2698 ft, plugged to 2680 ft sd, road washed out.

CORONA—Corona Oil Co.'s Wardlow 1, 27-3-7, rig.

EAST RICHFIELD—Midrich Oil Co.'s Vejar 1, 26-3-9, sd 4056 ft.

HERMOSA BEACH—Corniel Oil Corp.'s No. 1, 31-3-14, co 3900 ft. Aron H. Hover's Bryant 1, 31-3-14, td 4100 ft, to set 8⅝-in 3200 ft.

HUNTINGTON BEACH—Black Eagle Oil Co.'s No. 3, permit 194, 32-5-11, sd 4049 ft.

MANHATTAN BEACH—Staple Oil Co.'s No. 1, 24-3-15, td 4650 ft, wocs 11-in 700 ft.

NEWPORT—Piatt & Collins' No. 1, 14-6-10, sd 2574 ft. Pioneer Dr. Co.'s Banning 3, 29-6-10, sd 6452 ft.

PUENTE—N. O. Shively's Rowland 1, 23-2-10, rur. Signal Pet. Co.'s Rowland 2, sd 2545 ft.

SAUGUS—International Oil Dev. Co.'s Powell 1, 34-5-16, tested with tubing at 2000 ft for good flow of dry gas; sanded up, co 3365 ft.

EAST TORRANCE—Thos. Kelly & Son's Del Amo 1, 7-4-13, td 6433 ft, redr 5892 ft.

SURF—W. G. Bradford's B.B. 1, 19-6-10, rur.

VENICE—Big Ben Oil Co.'s No. 1, 27-2-15, cellar. Chas. W. Fourl's Fourl 1, 27-2-15, dr hard shale 6290 ft.

RIVERSIDE COUNTY—Great Coastal Oil Corp.'s No. 1, 35-5-5, rur.

SAN BERNARDINO COUNTY — Great American Pet. Co.'s Gapco B-1, 18-2-8, co 3167 ft; Gapco D-1, rur.

SAN DIEGO COUNTY—Everts Dr. Co.'s Ex-Mission 1, 23-15-3, dr shale 460 ft. E. A. Hargraves' No. 1, 29-15-3, dr shale 2023 ft. San Diego Gas & Pet. Corp.'s No. 1, 32-18-2, dr sandstone 5687 ft.

COLORADO

ARCHULETA COUNTY—Oil City Petroleum Co.'s Garnett 2-X, Lot 3 ne sw 25-33n-52e, dr 650 ft.

JACKSON COUNTY—Continental Oil Co.'s Hoye 3, nw ne 34-9n-78w, sd for winter 2298 ft.

MONTEZUMA COUNTY—Coon & Teague (McElmo Oil Co.) West 1 ne nw nw 31-36-17, dr below 2500 ft.

PARK COUNTY — South Park Oil Co.'s State 1, se se sw 16-11s-17w, straightreaming to set 12¼-in csg 320 ft.

PROWERS COUNTY—Trojan Oil & Gas Co.'s Lotus 1, nw ne ne 15-23s-46w, dr 3880 ft.

MONTANA

FERGUS COUNTY—H. Rowland Clark et al's Woodward 1, se se sw 20-14n-24e, dr 2976 ft.

PETROLEUM COUNTY—Guy Smith and associates' Test 3, ne se sw 33-14n-26e, dr 315 ft.

STILLWATER COUNTY — Continental Oil Co.'s John L. Orr 1, sw nw se 18-5s-17e, dr 1650 ft.

TETON COUNTY—E. K. Cheadle, Jr. and Bruce Radigan's Balsinger 1, ne se nw 20-27n-5w, udr 4¾-in csg 2346 ft.

TOOLE COUNTY—Green & Kyle's Clark 1, sw sw se 24-37n-1w, dr 378 ft.

WYOMING

ALBANY COUNTY—California Co.'s Holst 1, ne se ne 13-17n-77w, dr 2300 ft.

CARBON COUNTY—Earl W. Reader, Inc.'s Union Pacific 1, csw sw 19-20n-83w, dr 5665 and carrying 4¾-in csg. Argo Oil Co.'s Government 1, se 5-24n-87w, dr 150 ft.

FREMONT COUNTY — Mid-American Oil Co.'s Government 1, ne sw 4-28n-92w, D&A 3460 ft. Sidney H. Keoughan and Monongahela Oil Co.'s Wisda 1, ne se se 13-28n-93w, dr 2920 ft. Sidney H. Keoughan and Mcnongahela Oil Co.'s Jones 1-A, nw nw nw 7-28n-92w, abd 1136 ft.

HOT SPRINGS COUNTY—California Exploration Co.'s Government 1, ne se ne 12-44n-97w, dr 2700 ft.

NEW MEXICO

CHAVES COUNTY — Comanche Drilling Co.'s Sloop-Purcell 1, sec 10-11s-26e, contract reported let to E. B. Guess for 1500-ft hole. Roswell Oil Syndicate's Hinkle 1, ne se 17-11s-27e, contract reported let to Ray Hightower for 1600 ft hole.

GUADALUPE COUNTY — Cabra Springs Oil & Gas Co.'s V. K. Jones 1, nw ne nw 6-11n-22e, mim.

ROOSEVELT COUNTY—Claudell Development Co.'s Wilmes 1, sw se 21-2s-30e, dr 800 ft, carrying 12½-in csg.

SAN JUAN COUNTY—J. F. Cross's No. 4 sec 22-29s-11w, dr 600 ft. Fred Mendenhall's Test 1, ne nw 21-29n-11w, rigging up. Nick Spatter's Test 1, ne sw 32-31n-11w, csg set 904 ft for water shutoff and dr 945 ft. Webb Holding Co.'s State 1, nw 6-30n-11w, dr below 350 ft. Finley & Johansen's Test 1, ne nw 2-29n-11e, dr 600 ft.

SAN MIGUEL COUNTY — Cabra Springs

Oil & Gas Co.'s Pino Mesa 1, ne se 22-12n-22e, trying to get circulation to free 6¼-in csg 3600 ft, td 3803 ft. Cabra Springs Oil & Gas Co.'s West Pino Mesa 2, csw 19-12n-22e, sd 322 ft. Deason et al's Test 1, se sw 14-15n-16e, sd 310 ft. Starr-Kennedy Oil Co.'s Adams 3, nw 25-17n-16e, fsg 5093 ft. Starr-Kennedy Oil Co.'s Sanquijullo 1, ne se 18-17n-17e, suspended 307 ft. Starr-Kennedy Oil Co.'s Test 4, se ne 18-17n-17e, suspended 195 ft.

SANTA FE COUNTY—Fisher & Wolcott's Hill 1, sw 6-10n-6e, dr 2200 ft with so. Holmberg Interests' Cantwell 1, nw ne 5-10n-9e, standing with 10-in csg set at 650 ft, with so.

VALENCIA COUNTY — Western Natural Resources Corporation's De Chaves 2, sw ne 5-6n-1e, dr 5370 ft.

OKLAHOMA

ATOKA COUNTY—Brookshire et al's Rowland 1, nw ne ne 18-3s-10e, fsg bailer & ur. T. C. Ramler et al's William Roberts 1, sw se sw 6-2s-12e, dr 1140 ft.

BECKHAM COUNTY—Price & Watchorn's Heard 1, ne sw 17-8n-26w, hfw 2354-57 ft, sd. Fred Coogan et al's Shelton 1, sw sw sw 33-10n-25w, rur.

CADDO COUNTY—H. W. Lee et al's Stacey Ferrell 1, sw ne ne 3-6n-13w, sd 645 ft. Denver P&R Co.'s Noe 1, nw sw sw 34-10n-10w, fsg dr pipe.

CARTER COUNTY—Daphfine Oil Co.'s Hooks 1, se nw nw se 5-1s-2w, sd 2509 ft. C. P. Williams et al's Singleterry 1, se sw nw 25-2s-3e, dr 400 ft.

CHOCTAW COUNTY—J. V. Schrivner et al's Swink 1, cne se 29-6s-20e, sd 810 ft.

CLEVELAND COUNTY — Mid-Continent Oil et al's Collett 1, ne sw 35-10n-1w, dr 5960 ft. Anderson-Kerr et al's Wilson 1, nw se 27-10n-1e, bailing at 6201 ft.

COAL COUNTY—J. D. Petty Oil Co.'s McMillan 1, sw nw ne 16-1s-8e, dr 760 ft. Moore & Deaner's Edwards 1, nw ne se 27-2n-8e, dr 6995 ft.

COMANCHE COUNTY—F. F. Stevens' Green 1, se sw 2-1n-13w, lost bit & sd 1210 ft. Heiden-Taylor's Crutcher 2, cnw 11-1n-12w, fsg tools 863 ft.

GARVIN COUNTY—Wm. H. Atkinson et al's Pharoah 1, nw nw nw 15-3n-2w, dr 4750 ft. Burk Royalty Co.'s W. A. Gore 1, se nw se 3-1s-3w, dr 1600 ft.

GRANT COUNTY—Sultan Oil Corp.'s Patton 1, sw se 19-29n-3w, dr 4632 ft.

HARPER COUNTY—Sinclair Prairie Oil Co.'s Neff 1, nw se 21-26n-24w, dr 6210 ft.

HUGHES COUNTY—Freeman et al's Kite 1-A, nw nw ne 8-6n-10e, mach.

JACKSON COUNTY—Gypsy Oil Co.'s Kelly 1-A (twin), ne ne ne 1-1n-20w, ripped pipe 1102-04 ft, 1107-09 ft, 1112-14 ft, 1117-19 ft, no shows, sd. Ben Russell's Butler 1, nw ne 30-1n-22w, sd 3974 ft.

JEFFERSON COUNTY—George Pace et al's M. Jack 1, ne nw nw 19-4s-4w, sd 3032 ft. H. F. Young's Bouldin 1, se sw sw 1-7s-4w, lcn.

JOHNSON COUNTY—Gled Oil Co.'s Layton Reams 1, sw se ne 26-2s-8e, dr 545 ft.

KAY COUNTY—Helmerich-Payne's Crouse 1, cne sw 29-25n-1w, recovered dr pipe & reconditioning hole.

KINGFISHER COUNTY—Jadeka Development Co.'s Frakes 1, csw ne sw 16-15n-6w, shot dr pipe off & pulled 6800 ft, sd.

LEFLORE COUNTY—Murdock et al's Fee 1, sw ne sw 15-5n-25e, sd 2425 ft.

LINCOLN COUNTY—Tom Bennett et al's Bolby 1, cse sw 27-12n-2e, cored 5049-61 ft, dr 5064 ft. Derrickson & Reserve Pet.'s Law 1, se sw ne 25-14n-3e, rog. M. Murray & Ralph Day's Rittenhouse 1, nw ne 26-14n-6e, dr 1820 ft. R. L. Kemp & Comail Oil Co.'s Dooley 1, ne sw 20-17n-6e, ru.

LOGAN COUNTY—Gypsy Oil & Sinclair Prairie's Manning 1, cnw nw 3-17n-4w, td 6411 ft, pb to 3200 ft, ripped pipe & sd.

McCLAIN COUNTY—Benedum & Trees' James 1, se nw sw 19-5n-3e, cored 4199-4217 ft, no oil, D & A.

MURRAY COUNTY—T. E. Revels' Wolfe 1, ne ne ne 18-1n-2e, so 2658-70 ft, sd 2710 ft.

OKLAHOMA COUNTY—Sinclair Prairie Oil Co.'s Hoyt 1, nw sw ne 5-14n-3e, rig.

OSAGE COUNTY—Norbla Oil et al's 1, se nw 19-25n-7e, dr 2715 ft. Peters Petroleum & Norbla Oil Co.'s 1, sw sw sw 15-25n-5e, hfw & sd 3040 ft.

PITTSBURG COUNTY—P. H. Gray et al's Lee 1, nw se 12-5n-13e, sd 160 ft.

PONTOTOC COUNTY—Jarrett Petroleum's Johnson 1, se nw 28-4n-4e, hfw 1928 ft, pb to 1690 ft, testing. Gillette & Kroeger's Duver 1, ne se 1-1n-6e, sd 740 ft. J. D. Sledge & Jack Lynch's Thompson 1-A (twin), sw ne sw 1-1n-7e, recovered dr pipe, washing hole & co 3786 ft. Boyle et al's Newborn 1, sw ne 31-5n-4e, shot 5 qts 2057-67 ft, 5 qts 2032-47 ft, sso, 10 qts 1635-45 ft, hfw, sd. Southern Oil Corp.'s Ladd 1, cnw nw 27-3n-7e, set 12-in csg 515 ft, wocs. Gillette & Kroeger's Robbins 1, ne se 31-1n-6e, rog. E. M. Blanchard's Crabtree 1, ne se ne 27-2n-6e, sd 2920 ft. Dixie Oil Co.'s Graham 1, sw se sw 13-1n-2e, rig. Blackgold Petroleum Co.'s Bizzell 1, cne nw 15-7n-3e, lcn.

POTTAWATOMIE COUNTY — Paul R. Robb's Vittetoe 1, cne se 11-5s-4e, co 4938 ft.

SEMINOLE COUNTY—Moran et al's Brinlee 1, sw ne 27-6n-5e, dr 2698 ft, so & g. W. D. Grisso et al's Kenyon 1-A, cne se 24-8n-4e, td 4060 ft, flowed 222 bbls oil 2 hrs. Harris-Haun's Harjo 1, ne se nw 11-6n-6e (owpb), pb to 2115 ft, shot 10 qts, hfw. Mudge Oil Co.'s Whitney 1-A, se nw 9-6n-7e, hfw 1941 ft, pb to 1935 ft, testing. Verser & Clay et al's Thomas 1, ne se nw 1-6n-6e, cored 1225-48 ft, so & sd 2078 ft. Anderson-Kerr et al's Baumgartner 1, nw nw sw 7-10n-8e, rig.

STEPHENS COUNTY—Carter Oil Co.'s T. H. McCasland 1, cnw nw sw 22-1s-4w, cemented 8-in csg 4810 ft, td 4840 ft, wocs. Finley et al's Woolsey 1, nw se 10-3s-6w, sd 440 ft, machine moved out. Heenan Coe et al's Hefner 1, se ne sw 13-3s-6w, dr 100 ft. Wm. Angle's Johnson 1, ne se 17-1n-8w, sd 1176 ft.

TEXAS COUNTY—Ben F. Ash et al's Guyman Twnst. 1, cne se 30-3n-15e E C N, dr 1200 ft.

WASHITA COUNTY—Oklahoma Mid-Western Oil Co.'s Dock 1, sw sw sw 21-8n-18w, rebuilt rig & sd.

KANSAS

BARBER COUNTY—Lario et al's Whelan 1, cnw 32-31s-11w, si tankage, to re-treat.

BARTON COUNTY — Atlantic Oil Co.'s Vaniman 1, csw ne 15-20s-12w, set 10-in csg 4014 ft, rust. Gypsy, Atlantic & Shell's Batchman 1, csw ne 18-20s-11w, sd 3518 ft. National Refining Co.'s Ingersoll 1, cne ne 2-19s-13w, td 3380 ft, D&A. Murphin & Downing's Lanterman 1, nw se 15-19s-11w, set 12-in csg 515 ft, co. Treleaven & Brimm et al's Haas 1, sw sw sw 30-18s-15w, br. C. L. Price et al's Ehrlick 1, nw se 10-16s-13w, spd.

BUTLER COUNTY—Gaines et al's McKinley 1-A, ne sw 19-29s-4e, dr 1415 ft. Bill Rex et al's DeMoss 1, ne nw 8-28s-7e, 650 ft oih 2665-95 ft, shot 80 qts 2731 ft, 1700 ft oih.

CHASE COUNTY—Strong City Gas Co.'s Urschel 1, nw se nw 30-18s-8e, td 408 ft, ½ million gas.

CLAY COUNTY—Seidel Brothers' Younker 1, cs½ se nw 21-9s-4e, dr 1260 ft.

COWLEY COUNTY — National Refining Co.'s Robinson 1, ne se ne 11-34s-4e, co 3105 ft. Wakefield's Weigle 1, se se 6-32s-6e, sso 2958-70 ft.

DICKINSON COUNTY — Dutch Oil Co.'s Phillips 1, cne nw 15-15s-1e, ur 8-in csg 2475 ft.

ELLSWORTH COUNTY—Lario Oil & Gas Co.'s A. Harbacek 1, sw sw nw 7-16s-10w, fsg 2315 ft. Ainsworth Brothers' Charvat 1, ne nw ne 33-15s-10w, ur 15-in csg 545 ft.

GEARY COUNTY—Severs et al's Meyers 1, ne nw nw 4-10s-4e, fsg 1834 ft.

HARVEY COUNTY—Imo Oil & Gas Co.'s Sperling 1, se ne ne 23-22s-2w, spd.

KINGMAN COUNTY — W. C. McBride's Wooleridge 1, nw ne 16-27s-7w, hfw 4164 ft, dr 4205 ft.

McPHERSON COUNTY—Roth, Farrout et al's Bestwater 1, se sw se 23-30s-1w, set 15-in csg 395 ft, dr 400 ft. C. W. Lamar et al's Rolander 1, ne ne nw 8-18s-2w, dr 1135 ft.

MORRIS COUNTY—Home Gas Co.'s Kennedy 1, cnw se 7-16s-7e, rig burned, rebuilt, td 650 ft, ½ million gas.

OSBORNE COUNTY—Carmen & Hershey's Fitz 1, cne ne 9-10s-14w, set 12-in csg 1275 ft, dr 2395 ft.

RENO COUNTY—F. H. Unruh's Joseph 1-A, se sw nw 18-25s-4e, rig. Privett Drilling Co.'s Crotts 1, ne nw ne 27-26s-10w (owdd), dr 1375 ft in new hole. McBride's Popp 1, sw sw ne 32-24s-4w, dr 2755 ft.

RICE COUNTY—Deitrick et al's Fitzpatrick 1, cne ne 30-21s-8w, hfw 3735-37 ft, D&A. Darby et al's Taylor 1, nw se sw 25-19s-8w, set 6-in csg 3469 ft, hfw 3473 ft, td 3552 ft, D&A. Foraker-Nickerson et al's Lyon 1, se nw 27-20s-8w, dr 450 ft. Langston et al's Markel 1, ne sw 1-20s-9w, set 6-in csg 2868 ft, td 2885 ft.

ROOKS COUNTY—Stearns-Streeter et al's Hoskins 1, se sw se 34-9s-16w, ru.

RUSH COUNTY—Corbett & Barbour et al's Schmidt 1, sw sw se 19-27s-16w, set 15-in csg 475 ft, dr 690 ft. Twin Drilling Co. et al's Rolfe 1, sw nw sw 13-17s-19w, set 15-in csg 302 ft, dr 350 ft.

RUSSELL COUNTY — Eldorado Refining Co.'s Stratman 1, sw se se 32-14s-11w, set 8-in csg 2427 ft, dr 2675 ft. Tom Palmer et al's Herbel 1, nw sw 4-12s-11w, set 10-in csg 1968 ft, dr 2185 ft.

SALINE COUNTY—Dieter et al's Herrington 1, ne nw se 3-13s-1w, spd.

SEDGWICK COUNTY—Jones, Kirk et al's McQuillan 1, ne nw ne 21-29s-2w, so & g 3865-67 ft, dr 3885 ft. Allison & Fitzwilliams' Struthers 1, ne sw sw 34-28s-2w, running 12-in csg 1508 ft. Syndicate Oil & Gas Co. et al's Ratzlaff 1, ne nw nw 30-26s-2e, set 15-in csg 295 ft, dr 320 ft. R. D. Lauck et al's F. A. Roy 1, ne ne sw 24-29s-1w, dr 2585 ft. Leo Keller et al's Russell 1, sw sw nw 16-29s-3e, cellar. Aladdin Petroleum et al's D. Lauck 1, se ne nw 21-28s-2e, rig.

SHAWNEE COUNTY—Jim Edwards' Deitrich 1, cnw se 21-14s-15e, spd.

SUMNER COUNTY—Wentz & Continental's Small 1, nw sw 5-33s-4w, td 4700 ft. D & A Wentz etl al's Horsley 1, csl sw sw sw 18-35s-1e, dr 2798 ft. Foraker et al's Hiett 1, se sw ne 34-34s-4w, dr 135 ft.

TREGO COUNTY—Marathon Oil Co.'s Kline 1, sw se 19-14s-24w, set 6-in csg 4108 ft, dr 4155 ft.

EAST TEXAS

ANDERSON COUNTY—Gulf Prod. Co.'s M. A. Davey-T. Royall 1 (174-ac), nwc of M. Rogers sur, elev 572 ft, sp. Al Helberg et al's D. L. Gibson 1, W. T. Sadler sur, lcn. J. W. Luttes et al's C. M. McKee 1 (100-ac), Walter F. Pool sur, 3 mi se of Frankston, dk. Trinity State Oil Co.'s Trinity River 1, Cayuga field, elev 254 ft, rig.

BOWIE COUNTY—Tex-Ark Oil Co.'s J. B. Hamilton 1 (319-ac), Jessie Milam sur, rog.

CASS COUNTY — Remley-Nelley & R. Kamon Group No. 1's I. O. Savage 1 (121-ac), Mary Patterson sur, elev 351 ft, Pecan chalk 2030-2488 ft, sd 4016 ft. E. S. White and A. D. King et al's G. W. Allday 1 (40-ac), R. F. Whittaker sur, 4 mi ne of Linden, dk. H. F. Wilcox et al's S. A. Orr 1 (316-ac), G. W. Morris sur, elev 381 ft, sd 3887 ft.

CHEROKEE COUNTY—H. L. Hunt Prod. Co.'s T. R. Black 1 (50-ac), D. W. McNabb sur, Rusk pool, lcn. Jacksonville O&G Corp.'s H. D. Henderson 1 (40-ac), J. Pineda sur, elev 409 ft, dr 700 ft. Guy C. Jameson et al's T. F. Millinix 1 (20-ac), T. M. Garrett sur, elev 342 ft, dr 1800 ft. Killough et al's J. S. Strickland 1 (40-ac), Urian Moore sur, 7 mi nw Jacksonville, elev 433 ft, sd 1500 ft. Leetex Oil Co.'s (Wm. A. Stone) J. J. Tullis 1 (157½-ac), W. M. Johnson sur No. 162, dr 360 ft. Rowan-Nichols Oil Co.-Simms Oil Co.'s C. V. Gilbreath 1 (60-ac), H. M. Brewer sur, Reklaw area, lcn. E. M. Thomasson & Co.'s W. J. Addis 1 (80-ac), Jessie T. Jones sur, elev 471 ft, sd 2150 ft. Wilson-Stubbs Oil Corp.-J. C. Patty Oil Co.'s Lucy Roberts 1, J. D. Wolfin sur, sd 1550 ft.

ELLIS COUNTY—Beckner & Findley's Coker 1, R. de la Pena 11 League Grant, sp and sd.

FREESTONE COUNTY—Walter M. Burress et al's J. B. H. Orand 1 (50-ac), W. M. G. Jones sur, 1¼ mi n of Fairfield, sd 1000 ft. Walter L. Goldston et al's Watson Bros. 1, R. D. Price sur, rig. Haley & Young's G. Cochrum 1 (380-ac), D. Bullock sur, 1 mi se of Luna, lcn. J. E. Milburn & J. B. Patty's S. E. McAshan 1 (40-ac), S. G. Diaz sur, blk 178, sp & sd. F. L. Smith Oil Co.-W. A. Reiter et al's E. J. Barker 1, A. G. Smith sur A-731, 13 mi s of Fairfield, top Pecan 3370 ft, dr 3780

ft. Pete N. Wiggins, Jr., & Lee I. Dodwell's Pasadena Co. 1 (155-ac), J. Graham sur, 2½ mi e of Teague, dr 2100 ft.

HENDERSON COUNTY — Cosden Oil Corp.'s Hurt-Miller 1 (80-ac), J. B. Hays sur, 5 mi n of Frankston, elev 412 ft, top Pecan chalk (soft) 3220 ft, top hard chalk 3270 ft, top Austin chalk 4385 to 4572 ft, coring 4650 ft. J. C. Crosby & Culp's M. T. Dodd 1 (160-ac), Geo. Aldrich sur, 4 mi e of Malakoff, elev 376 ft, Pecan chalk 2390-2504 ft, sd 3120 ft. Great State Oil Corp.'s (Dick Andrade & R. S. Bond) R. Sid Ansley 1, N. B. Thompson sur, elev 289 ft, top Austin chalk 2608 ft, sd 2680 ft. Wm. C. McGlothlin et al's Paul Lewis 1 (88.3-ac), Daniel Lacy sur, nw of Trinidad, lcn.

HOPKINS COUNTY—D. A. Hale et al's L. M. Hall 1 (70-ac), A. Caro sur A-143, elev 506 ft, dr 770 ft. Hill & Hill, Inc., et al's J. W. Jones 1 (50-ac). Jasper Williams sur, dr 1540 ft.

HOUSTON COUNTY — American-Liberty Oil Co.'s J. J. Sweeney 1 (320-ac), sec 17, blk 4, Washington Co. RR. sur, elev 113 ft, lcn. Adams et al's A. Lovelady 1 (55-ac), J. J. Thomas sur, 1¼ mi e of Lovelady, dk. Lacey & Miller's J. A. Hanner 1 (460¼-ac), W. M. Dillard sur, 2 mi ne of Weldon, elev 221 ft, abn 2225 ft. Trinity Development Corp.'s G. A. Knox 1 (150-ac), Wm. Prissick sur, 6 mi w of Lovelady, sp & sd.

HUNT COUNTY—G.S.&S. Oil Co.'s Oscar Popper 1 (101-ac), Jas. H. Moore sur No. 544, elev 534 ft, top red beds 2368 ft, tested sw at 2560-2652 ft, cor shale 2850 ft. Julian C. Hall et al's A. B. Parrish 1 (100-ac), (S.) Nancy Danley sur, rog. L. G. Priest et al's A. Barnett 1 (212-ac), J. C. Hamer sur, A-417, elev 607 ft, dr in Austin chalk 2210 ft.

LEON COUNTY—Normangee Corp.'s B. F. Henry 1 (125-ac), R. Rogers sur, so 2517-57 ft, dr 2630 ft.

LIMESTONE COUNTY—David J. Crawford et al's Vol DeLong 1, Pedro Varela sur, 2½ mi n of Thelma, sd 1650 ft. Dan H. Daugherty et al's Sallie Welch 1 (94-ac), Pedro Varela sur, dk. J. P. Davidson et al's J. M. Childs 1 (60-ac), J. Nelson sur, blk 3, Austin chalk 1052-1297 ft, Buda lime 1640-1670 ft, dr 1710 ft. J. E. Schultz et al's Roy Ward 1 (23-ac), Harrison York sur, dk. V. V. Waite et al's Cannon Barron 1 (320-ac), W. G. McKenzie sur, 4 mi n of Thornton, pits dug.

MORRIS COUNTY—Fleetborn Oil Co.'s Geo. Hammond 1, lcn. C. M. Joiner et al's Reese 1, T. C. Ry. sur, rog. C. L. Simpson et al's P. M. Staggers 1, J. D. Nelson sur, Pecan chalk 2520-2955 ft, dr 3975 ft.

NAVARRO COUNTY—Bennett Bros. et al's T. E. Stewart 1 (83-ac), W. R. Bowen sur, sd 1186 ft. R. B. Godding et al's W. Kent 1 (48½-ac), C. B. Emmons sur, sd 1545 ft. W. J. Keeling Estate et al's J. F. Rushing 1 (84-ac), Henry Ford sur, 6 mi w of Currie, elev 530 ft, Austin chalk 2155-2395 ft; top Woodbine sand 2858 ft, co 2880 ft. L. N. McCulloch et al's C. D. & J. L. Berry 1 (35-ac), W. W. Moss sur, sd 625 ft. J. B. Stoddard-Jaybee Oil Co.'s C. S. West 1-B (1190-ac), M. Boren sur, N. Currie, dr 605 ft. Syam Oil Co.'s Mrs. W. D. Ray 1, Elisha Powers sur, 3 mi sw of Rural Shade, Pecan chalk 1950-2116 ft, top soft Austin chalk 2550 ft, top hard 2799 ft, top of Woodbine section 3480 ft, tested dry 3600 ft.

RAINS COUNTY—J. K. Wadley & J. W. Halsell's T. F. Jones 1 (22-ac), BBB&C Ry. sur, elev 425 ft, Pecan chalk 2503-2700 ft, top Austin chalk 3970 ft, sd 4730 ft. Bryant & Speer's Mrs. S. E. Jones 1, rig. Rio Oil Corp.'s O. L. J. Easter 1-A (39-ac), R. Hotchkiss sur, elev 432 ft, top Pecan chalk 2188 ft, base of Austin chalk 3728 ft, coring 4100 ft.

RUSK COUNTY—Ben E. Lamb et al's Haywood Leath 1 (185-ac), L. J. Dooley sur, 2½ mi e of Pirtle, sd 700 ft. Fair & Thompson, Inc.'s R. L. Needham 1 (40-ac), Jesse H. Chambers sur, lcn.

RED RIVER COUNTY—Speary et al's E. H. Thompson 1 (38.4-ac), J. Northercross sur, dry and abn in red beds 2040 ft.

SMITH COUNTY—R. W. Fair et al's W. P. Rushing 1 (50.8-ac), Jacob Herrin sur, elev 393 ft, top Pecan chalk 3130 ft; Austin chalk 4000-4250 ft; fsh 4550 ft. Alford-Deason sur, Kangerga's T. E. Green 1, Jas. Jordan sur, Pecan chalk 2900-3340 ft, top Austin chalk 3740 ft, 1st Woodbine sand 3918-3970 ft; 2nd sand 4085-4135 ft, dry and abn 4153 ft. A. G. Deck et al's Dora Kendall 1, John Williams sur, 3 mi e of Van field, sp & sd. Paul S. Williams et al's J. M. Dean 1 (100-ac), V. Moore sur, Bullard Dome, elev 485 ft, rig.

VAN ZANDT COUNTY—J. C. Acre et al's F. W. Anderson 1 (160-ac), John Blair sur, 4 mi n of Wills Point, sp & sd. Joe Cadrin et al's J. F. Bass 1 (16-ac), Wm. Hart sur, dr 110 ft. Pete Corley et al's J. L. Slaton 1, Wm. Carlton sur, 3 mi se of Ben Wheeler, dk. Green & Wynn's A. L. Eaton 1, L. Smith sur, lcn. Hodges & Schwartz et al's S. E. McKenzie 1 (106-ac), Wm. Daniel sur, sd 1235 ft. Martin & Evans' J. R. Bryant 1, rig. S. E. Miller et al's J. M. Palmer 1 (39.1-ac), blk 14, N. C. S. L. sur, sd 685 ft. Rauch Bros. et al's Bearden-Palmer 1 (61.1-ac), blk 11, N. C. S. L. sur, sd 1240 ft.

WOOD COUNTY—Alex M. Snyder & Shaw's J. T. Holmes 1 (122-ac), A. N. McKnight sur, A-399, Pecan chalk 3400-3700 ft, top Austin chalk 4776 ft, top Woodbine section 5135 ft, sd 5153 ft.

BORDER COUNTIES

HARRISON COUNTY—Hanover & Carroll's Buchanan 1, Crawford sur (near Hallesville), dr 2158 ft. R. C. Payne's Lowery 1, E. D. Spain sur, fsg 3524 ft. W. T. Boyd et al's W. L. Rudd 1, Jno. McMillan sur, mim.

MARION COUNTY—Smyley & Dodd's Henderson 1, R. Bennington sur, sd 2385 ft.

PANOLA COUNTY—Givens & Holloway's Wooten Est. 1, Winny Mann sur, sd 2150 ft. Stovall Drilling Co.'s Ivy 1, P. Martin sur, sd for csg 1980 ft.

SOUTH TEXAS

BANDERA COUNTY—Peerless Oil & Gas Co.'s R. G. Garrison 1, GC&SF sur, dr 965 ft.

BASTROP COUNTY—Cole Petroleum Co.'s American National Bank 6, R. Gage sur, blk 31, coring 1875 ft. Muenrio Oil Co.'s Addie M. Pruitt 1, J. A. Navarro sur, move in machinery. Joe E. Mills et al's Wm. Litton 1, Navarro sur, sd 1753 ft.

BEE COUNTY—R. N. Herod et al's Kimball 1, S. Winship sur, dk. Hewitt & Hawn's Geo. Ray 2, fsg 4100 ft. Bill Hindeman's I. Hall 1, Fontaine sur, lcn. Humble O&R Co.'s D. Fox 1, M. Fox sur, dr 3860 ft. Luling O&G Co.'s B. B. Ruhmann 4, Wm. F. Hodge sur, blk 13, td 3062 ft, set 7-in csg to td, perf 3054-62 ft. Mid-Continent Crude Oil Co.'s A. J. Kimball 2, S. Winship sur, sd 250 ft, re-lay gas line. Kenneth Morgan et al's Hicks Hall 1, Jose Maria Uranga grant, blk 37, ru. Mills Bennett Oil Corp.'s Harris 1, sec 9, J. M. Uranga grant, td 3922 ft, top sand 3870 ft, set csg 3906 ft, wocs. Tuleta Oil Co.'s G. A. Ray 1, W. B. Blanchard sur, dr 3410 ft. United Prod. Co.'s Ray 47, ru. Whisenant, Trenchard & DeLange's Rapp 1, sec 10, Uranga grant, td 3933 ft, set csg, wocs. R. J. Worthington et al's Rutledge 1, B. Q. Hadley sur, sd 1900 ft.

BEXAR COUNTY—Jones & Keiffer's Ether W. LaGrange 1, F. Rolen sur, lcn. O'Neil et al's Salek Cherniavsky 1, just east Eckert pool, prep to sp. Ricker, Auld & Bonner's Whitaker 1 (carried by some as Phil French) near south central portion of n 1000 acres out of 1600-ac tract, lay water line. Briggs & McPhee's Florence Lamb 1, M de Luna sur No. 4, prep to dd from 1065 ft. Umburn & Jones' Bilhartz 1, F. Rolen sur No. 48, dr 1795 ft. R. Y. Walker's L. A. Hamilton 1, blk 4007, lcn.

BROOKS COUNTY—Cole Pet. Co. & Locke Purnell's G. Ullrich 1, VCSD & RGNG Ry sur No. 7, td 4514 ft, contract depth, making deal to dd. Helmerich & Payne's Scott & Hooper 1, making lcn for 5000-ft test in Palo Blanco Ysidora Guerra grant.

CALDWELL COUNTY—H. M. Anderson's W. B. Perry 1, Gideon Pace sur, sd 1901 ft. O. Dawn's F. Tiller 1, 250 ft nl and 1000 ft el of tract, G. Hinds sur. Fomax Oil Co.'s B. G. Tiller 1, 150 ft n and w l of 137-acre tract, G. Hinds sur, lcn. W. B. Hinton's Osteen 1, 150 ft swl and 450 ft nel of 70-acre tract, Swearingen, sur, moving in rig. Kurz Oil Prod. Co.'s C. Kurz 1, Klecamp sur, dr 3615 ft.

CALHOUN COUNTY—Continental Oil Co.'s American National Realty Co. 1 (Moody), sec 6, blk C, td 6871 ft, coming out to change bits. Steen Drilling Co.'s Stanzel 1, A. Esparaza grant, dr 5490 ft.

DUVAL COUNTY—W. C. McBride, Inc.'s E. R. Hagist 2, 330 ft nl and el of sec 265, lcn. Mills Bennett Pet. Corp.'s Duval County Ranch 1, sec 192, prep to ru. W. B. Stewart's Juan Benavides 1, sec 355, dr 2635 ft. Stieren Oil Co.'s Philip 1, sec 320, dr. The Texas Co.'s T. J. Graham 1, sec 572, td 5410 ft, pb 4768 ft with 450 sacks cement, wocs; Sutherland 1, sec 503, dr 2185 ft, top Cole sand 2044 ft. Tidewater Oil Co.'s J. R. Foster 1, sec 200, dr below 100 ft, sur csg.

EDWARDS COUNTY—Harry Adams' Hollman 1, CCSD & RGNG Ry sur, sec 22, sd 545 ft.

FAYETTE COUNTY—J. Elmer Thomas & Texas Seaboard Oil Co.'s Glecker 1, Anna Powell league, td 4000 ft, running electric formation tester.

FRIO COUNTY—Amerada Pet. Corp.'s Halff & Oppenheimer 2, J. H. Gibson sur 16, dr 9775 ft.

GILLESPIE COUNTY—Ed L. Nixon's Lindig 3, M. J. Guerra sur No. 41, fsg 515 ft. Jack Porter's Mrs. N. Meyer 1, Lupe Mott sur, dr 3110 ft.

GONZALES COUNTY—H. H. Weinert's August Kallies 1, Ira Nash sur, dr 3850 ft.

GUADALUPE COUNTY—Diamond Half Oil Co.'s Wm. Maierhofer 1, L. H. Peters sur, dr 1950 ft, top Austin chalk 1836 ft. Grayburg Oil Co.'s S. M. Roamell 1, James Hodges sur, dr 2085 ft. L. E. Trout's McKee 1, Green De Witt sur, sd for water 1200 ft.

HIDALGO COUNTY—Alamo Dr. Co.'s Sullivan 1, tract 284, por 39, sd 3009 ft. Circle (Navarro) Oil Co.'s Seabury, George & Taylor 1, tract 256, por 38, material on ground. Jack Clements' F. B. Guerra 1, tract 254, por 39, top sand 2767 ft, coring 2795 ft. Davis & Harrison's Mrs. Lula George 1, tract 13, por 41, dr stuck, 4136 ft, trying to loosen; F. B. Guerra 1, tract 12, por 41, dk comp, move in machinery; Downey & Morton's Daskam 1, 450 ft el and 55 ft sl blk 34, por 45, formerly carried as Dayle L. Smith Oil Co.'s Daskam e, td 1710 ft (owdd), re-dr. Edwards & Olford's E. Flores 1, tract 267, por 39, sp. Heep Oil Corp.'s Flores 1, tract 284, por 39, sd 3012 ft; F. N. Guerra 1, tract 254, por 39 and 40, move in machinery; W. R. Jackson 1, tract 278, por 39-40, ru; Lawrence 1, tract 274, por 39, lcn; Seabury, George & Taylor 2, tract 256, por 38, move in machinery. Lawson et al's G. G. Salinas 1, 330 ft sl and wl sw 60-acre tract 10, por 41, lcn; Luckey, Blocker & Bishop's F. B. Guerra 1, tract 254, por 39, top gas sand 2722 ft, top shale 2742 ft, top oil sand 2749 ft, td 2755 ft, completing. McCullum Exploration Co.'s J. C. Engelman 1, blk 79, Las Mastena grant, set 600 ft sur csg, prep to re-dr. Moncrief & Showers' F. B. Guerra 1, tract 254, por 39, top sand 2757 ft, gas to 2785 ft, oil saturation to 2806 ft, td 2806 ft, completing; John Lawrence 1-A, tract 274, por 39, prep to move in; Lawrence 1-B and 2-B, tract 274, por 38, lcn; W. R. Jackson 1, 2 and 3, tract 278, por 39 and 40, lcn. Reynosa Oil Co.'s F. B. Guerra 1, tract 254, por 39; Pedro Salinas Rivas 1, Tract 293, por 39. Windsor Oil Co.'s J. M. Doss 1, tract 278, por 40, lcn; Otto Woods (King-Wood Oil Co.), John Lawrence 1, tract 274, por 39, td 2753 ft, 6⅝-in csg set 2730 ft, csg leaked, well killed, running 5 3/16-in csg on packer and recomplete; Lawrence 2, blk 274, por 39, dr 2640 ft; Lawrence 3, blk 274, por 39, dk, mov in machy; John Lawrence 4, blk 274, por 39, ru; F. B. Guerra 1, tract 254, por 39, top sand 2760 ft, gas to 2782 ft, oil to 2800 ft, kill well to core deeper; Guerra 2, tract 254, por 39, top sand 2781 ft, gas to 2786 ft, oil to 2790 ft, td 2790 ft, set 7-in csg 2786 ft, wocs; David Flores 1 (Porter Evans), tract 262, por 38, sp. Union Sulphur Co.'s American Rio Grande Land and Irrigation Co. 2, blk 86, lot 2080, N. Capisallo district, Llano Grande grant, dr 6767 ft.

JACKSON COUNTY—Atkins & O'Neil's Hodges 1, center blk 22, 1½ mi n LaWard, lcn for 6500-ft test. Humble O&R Co.'s Lawrence 1, J. Wilson sur, sp. Phillips Pet. Co.'s Drummond 1, Musquiz sur, td 6012 ft, pb 5634 ft, sd and re-dr to 5695 ft, made little gas and lots of salt water.

JIM HOGG COUNTY—G. H. Van Rossum's C. W. Hellen 1, sec 48, dr 1260 ft, corrected depth.

JIM WELLS COUNTY—Sinclair Prairie O&G Co.'s A. A. Seeligson 1 (formerly Trinity Drill-

ers, Inc.), Premont district, td 3865 ft, running wild. Smith & Storey's Marther E. Dilworth 1, sec 88, S. Welsh sur, dr below 4000 ft.

KARNES COUNTY—California Co.'s J. C. Toms, Jr., 1, M. de J. and Y. Barvo grant, dr 3020 ft. F. P. Hynes' Swierez 1, C. Flores sur, sand 913-36 ft, show o and g.

KENDALL COUNTY—J. F. Torrey sur, sd 919 ft.

KERR COUNTY—J. F. Morrisey Co.'s F. A. Karger 1, GS&F sur, No. 1, abst 77, td 1465 ft, sd for csg, hole full of water.

KLEBERG COUNTY—Clark et al's Kivlin 1, td 2531 ft, showing for some sort of producer, trying to complete.

LA SALLE COUNTY—Standard Oil Co. of DC'S J. M. Martin 1, sec 683, dr 1955 ft.

LAVACA COUNTY—Humble O&R Co. & Magnolia Pet. Co's C. A. Wilson 1, move in rig.

LEE COUNTY—James E. Pederson's C. A. Turner 1, D. Hudson sur, td 6330 ft, running 6⅝-in csg to about 6150 ft.

LIVE OAK COUNTY—Henderson Coquat's Wade McNeill 1, Dinero district, sp and set sur csg; D. L. Robertson 1, Dobie sur, dr 2525 ft; Little 1, M. M. Shipp sur, sd 500 ft (corrected depth). Houston Oil Co.'s Cartwright 28, Colorado sur, dr. Lion Oil & Ref. Co.'s McNeill 2, Jane Cutty sur, Pettus sand 5014-22 ft, dst 80 ft, mud cut with oil, sd 5022 ft for orders.

McMULLEN COUNTY — Beer & Witherspoon's Ezzell 1, Fant and Fadden sur, dr 1151 ft. American Gas Co.'s L. Jacob Corp. 1, 350 ft w of se cor and 160 ft sel of 415 ac tract (Frio Pasture), in John Fadden sur, sp and sd pending outcome of litigation. H. K. Boyson et al's E. R. Hagist 1, sec 10, H&TC Ry sur, dr 100 ft. Circle W Oil Co.'s Wheeler 1, sec 44, Two Rivers Ranch, dr 1200 ft. Encino Gas Co.'s Walker 1, sec 128, dr 2110 ft. W. P. Howard's B. Claunch Ranch 1-A, M. Hely sur, just n No. 1, coring sand 780 ft. R. P. Whitfield's L. Jacob Corp. 1-A, GH&H sur 17, coring 1116 ft.

MILAM COUNTY—Frank W. Keller's A. L. Lucas 1, 1978.5 ft nl and 400 ft el 178.5-acre tract, Jose Real sur, lcn.

REAL COUNTY—M. J. Heartwell's M. S. Perry 1, sec 175, AB&M sur, fsg 2838 ft.

REFUGIO COUNTY—Conroe Oil Co. & Santa Clara Oil Co.'s Miss Ella West 1, ru. Cecil Hagen & O. V. McIntire's Mrs. Edith Clarkson 1, 1726 ft nl and 3820 ft el of 610.5-acre tract, blk 23, J. Caughlin sur, lcn. Holland Oil Co.'s Peck 1, E. Lopez sur No. 44, td 5348 ft, top sandy shale and sand 5327 ft, cleaned out, flowed some oil and sand, but bridged over, pulling tubing to clean out and test. Quintana Pet. Co.'s T. O'Connor 1-B, BBB&C sur, abst 96, td 7046 ft, pb to 5924 ft, re-dr to 5960 ft, testing. United Prod. Co.'s J. A. Lambert 8, L. M. Rogers sur, td 6910 ft, pb 6495 ft, wocs.

SAN PATRICIO COUNTY—Allied Minerals Co.'s Ramsey 1-A, Giddings sur, coring 2056 ft. Lonnie Glasscock's M. F. Timmons 1, blk 27, San Patricio townsite, dr 1800 ft. Gum Hollow Oil Co.'s John G. Willacy 1, dr 5800 ft. Heep Oil Corp.'s Welder 4, J. & F. Portillo sur, dr 7220 ft.

STARR COUNTY—C. R. Borah et al's A. Guerra 1, San Jose grant, dr 2010 ft. M. P. Evans' Kelsey Bass 1, sec 7, por 75-76-77, dr 1450 ft. C. L. Smith's Longfellow 1, sec 281, completing water well. Weekly Oil Corp.'s Starr County Cattle Co. 2, blk 19, por 89, dr 1085 ft. Sun Oil Co.'s Gonzales 1, sec 372, coring sandy shale and shells 2885 ft. United Prod. Co.'s Guerra 1, por 55, circulating 780 ft, losing returns. E. L. Younkins' Kelsey Bass 1, blk 19, por 87, dr 1930 ft.

TRAVIS COUNTY—Humble O&R Co.'s Buck Christian 2, Kemp sur, top serpentine 687 ft, td 769 ft, set csg, wocs.

UVALDE COUNTY—Humble O&R Co.'s R. L. Anderson 1, Juan Jose Guerra sur, dr 4665 ft, Pennsylvanian. T. T. Word's K. S. Truelove 1-B, dr 1945 ft.

VICTORIA COUNTY—Devonian Oil Co.'s J. N. Fagan Estate 1, Teal sur, dr 2080 ft. Humble O&R Co.'s A. M. McFaddin 2, C. O. Edwards sur, dr 4750 ft. Plummer et al's Zimmer 1, R. Manchola grant, coring 5000 ft; E. Terrell 2, R. Manchola grant, dr 4350 ft. Texas Co.'s A. M. McFaddin 2, C. M. B. Hoyt sur, dr 6060 ft; Nichols 1, prep to move on.

WEBB COUNTY—Fidelity Exploration Co.'s R. Saldivar 1, blk 12, sec 657, Borrego grant, dr below 3000 ft. W. W. Lincoln's M. B. Volpe 1, sec 2011, dr 1015 ft. W. P. Morris' A. M. Bruni 1, blk 65, Brown sub, J. V. Borrego grant, sd 1385 ft. Starr State Oil Co.'s Yeager 11, share 5, Las Animas grant, sd 3410 ft.

WILLACY COUNTY—W. W. Silk's Stillman 1, blk 130, Stillman Ranch sur, dr 1987 ft.

WILLIAMSON COUNTY—Stalle and Caffey's A. J. Nelson 1, B. C. Love sur, dr 315 ft. Johnson & Ray's Mary Smith Oxford 1-A, Williams sur, dr 610 ft. Home Oil Co.'s Raez 1, J. Bevil sur, dr 998 ft. J. Morgan Russell's Nelson Estate 1, Justice sur, sd 755 ft.

ZAPATA COUNTY—J. W. Edwards' D. A. McAskill 1, J. V. Borrego grant, dr 700 ft. Merle Gunby et al's A. D. Haynes 1, blk 9, Haynes sub, Comitas and Villa grants, dr 1195 ft. Joe Palmer's S. Vela 1, share 4, blk 170, El Guello grant, dr 1120 ft.

TEXAS GULF COAST

AUSTIN COUNTY — J. F. Whillis, Jr.'s Wittenburg 1, H. & T. C. sur, Sec. 177, abst. 213, 1100 ft fr sw line, 330 ft fr se line of 200.2 ac tr, lcn.

BRAZORIA COUNTY — Amerada Pet. Corp.'s Houston Farms Dev. Co. 1, L. G. Bachelder survey, dr shale 7415 ft. Glen L. Bruner's Truska 1, H&TB No. 7 sur (75-ac), Discorbis 5806 ft, Marginulina 7145 ft, dr shale 7474 ft. Harrison & Abercrombie's Bernard River Land Co. 1, C. Breen sur (103-ac), elev 35 ft, Discorbis 6545 ft, Heterostegina 7230 ft, dr shale 8515 ft. Pat Rutherford & W. H. McCarthy's Natl Life Ins. Co. 1 (469-ac), H. Austin Lge. 4, A-12 sur, dr shale 6538 ft. Stanolind O&G Co.'s J. W. Surface 1 (75-ac), A. C. H. & B. abst 462 sur, spudded. Turnbull & Irwin's Sutherland 1, J. Robinson sur, abst 11, 330 ft fr n and s line, 150 ft fr w line of 40 ac tr, ru.

CHAMBERS COUNTY—Sun Oil Co.'s Hamilton 1 (640-ac), T&NO sec 128 sur, preparing to spud.

FT. BEND COUNTY—Vico Oil Co.'s Darst 1, E. Powell sur, dr shale 3300 ft.

GALVESTON COUNTY—Gillock Pet. Co.'s Spoor 2, W. K. Wilson sur, sd 1476 ft. Humble O&R Co.'s Maco Stewart 1-B, J. Sellers sur, Discorbis 6575 ft, Heterostegina 6810 ft, Marginulina 7052 ft, dr shale 8060 ft. Pure Oil Co.'s Schelor 1 (231-ac), BBB&C sur, Discorbis 6554 ft, Heterostegina 6848 ft, Marginulina 7082 ft, dr shale in sdtr hole 7436 ft.

GRIMES COUNTY—Holt et al's Fuqua 1, Moses Evans sur, dr shale 1605 ft.

HARDIN COUNTY—Kirby Pet. Co.'s H& TC 1, H&TC sur, dr shale 810 ft.

HARRIS COUNTY—American Liberty Oil Co.'s J. J. Sweeney 1, W. C. R. R. sur, blk 4, sec 12, Heterostegina 3295 ft, Warrnie 4910 ft, Fayette 5310 ft, Massilina Pratti 5430 ft, Hockleyensis 5484 ft, dr shale 6235 ft. C. B. Bunte's Lackner 1, H. Renerman sur, Heterostegina 3879 ft, Discorbis 3517 ft, Frio 4150 ft, dr shale 5763 ft. W. U. Paul's House 1, M. Magruder sur, elev 103 ft, top Oakville 2380 ft, Catahoula 2524 ft, Heterostegina 3559-79 ft, in Frio 3846 ft, td 3864 ft, sdtr 1600 ft, shut down 4090 ft.

JEFFERSON COUNTY — Magnolia Pet. Co.'s Hebert Trust 1, P. H. Bell sur, dr shale 8476 ft. Sun Oil Co.'s Long 1, (1202-ac), J. Blair sur, top Warreni 7818 ft, dr shale 7377 ft.

LIBERTY COUNTY—Extension Oil Co.'s Lovett 1, P. P. Dever sur, shut down for repairs 3518 ft. Liberty Independent Oil Co.'s J. M. Neal 1 (100-ac), S. Strong sur, coring shale 2838 ft. Jack Frazier's Lynotte Buffon 1 (865-ac), James Robeson sur, elev 50 ft, top Discorbis 3610 ft, Heterostegina 3790 ft, Frio 3946 ft, Warrnie 5696 ft, Fayette 6133 ft, Massilina Pratti 6235 ft, Hockleyensis 6271 ft, dr shale 6431 ft.

MATAGORDA COUNTY — Continental Oil Co.'s Robbins 1 (1500-ac), J. C. Franz sur, elev 19 ft, top Discorbis 5815 ft, Marginulina 6980 ft, cutting and pulling liner 6995 ft.

POLK COUNTY—Dick Schwab's Lynch 1, G. Janison sur, lcn.

WHARTON COUNTY — Texas Gulf Producing Co.'s E. Kresta 1, E. T. RR. sec 54 sur, elev 107 ft, top Discorbis 4356 ft, Marginulina 4822 ft, Frio 5985 ft, salt water sand 6323-33 ft, Vicksburg 6709 ft, D&A 6909 ft.

LOUISIANA GULF COAST

ALLEN PARISH—Humble O&R Co.'s Industrial Lumber Co. 1, sec 21-3s-5w, dr shale 7554 ft.

BEAUREGARD PARISH—Gulf Refining Co.'s Lutcher Moore A-1, sec 25-6s-12w, dr shale 5941 ft.

CALCASIEU PARISH — Union Sulphur Co.'s State 1, sec 12-9s-8w, dr shale 4600 ft. Fohs Oil Co.'s O. H. Castle 1, sec 13-9s-8w, lcn. Wheeler Oil Co.'s Gabbert 1, sec 28-9s-7w, woc 1420 ft.

CAMERON PARISH—Texas Co.'s Calcasieu Lake 10-A, sec 1-14s-9w, dr shale 4711 ft. Same operator's Jessen 1, sec 24-14s-10w, ru.

EAST FELICIANA PARISH—Thompson Creek Oil Co.'s Fanny Noland 1, sec 70-1s-1w, dr shale 900 ft.

EVANGELINE PARISH—Humble O&R Co.'s Samuel Hass 1, sec 22-4s-1w, ru.

LA FOURCHE PARISH—Barnsdall Oil Co.'s Herang Plantation 3, sec 97-17s-20e, dr in sdtr hole 5321 ft.

PLAQUEMINES PARISH—E. A. Howe's Buras Levee 1, sec 26-21s-30e, woc 1533 ft.

ST. BERNARD PARISH—J. Danciger's Battles 1, sec 135-14s-14e, dr shale 5071 ft.

ST. MARTIN PARISH—Texas Co.'s St. Martin Ld. Co. 6, sec 17-8s-7e, dr water sand 9083 ft. H. J. Weir's Declout 1, sec 108-8s-5e, dr gumbo 900 ft.

ST. MARY'S PARISH—Edwards Drilling Co.'s Chetemaches 1, sec 34-13s-9e, preparing to start up, td 6501 ft.

ARKANSAS

ARKANSAS COUNTY—Grand Prairie Realty Co.'s Fischer 1, nw ne nw 6-6s-4e, rur.

COLUMBIA COUNTY—Dudney & Woodword's L. H. Pearce 1, ne nw 7-17-20, dr 1398 ft.

HEMPSTEAD COUNTY—Arkansas Drilling Co.'s Jones 1, ne se 11-14-24, dr 2805 ft. Dr. E. L. Austin's J. W. McWilliams 1, nw sw 19-13-23, sd for water 1680 ft. F. W. Martin & Co.'s Lafferty 1, se nw 17-14-24, dry 2990 ft, dr 3000 ft.

LA FAYETTE COUNTY—W. H. Harvey's A. M. Allen 1, ne sw 18-19-24, 2500 ft oih, wosr, 2781 ft. A. M. Allen 2, se sw 18-19-24, rur. Wadley-Erwin, Tr.'s Bodcaw Lbr. Co. 2, se ne 19-16-23, dr 3550 ft.

MILLER COUNTY—Beverly Oil Co.'s Commercial Bank 1, ne se 30-17-28, dk. Bloomburg Oil Corp.'s Patterson 2, 5-19-28, lcn. King Oil Corp.'s C. H. Schroder 1, dr 2685 ft. Rhone, Ford & Goodwin's Frost Est. 1, se sw 8-15-26, rur. Lee Timberlake's Frost Est. 1, sw sw se 27-15-26, cemtd 10-in csg 200 ft.

UNION COUNTY—Mrs. R. K. Jones' J. Davis 1, nw nw 28-16-14, fsg csg 2765 ft. Reuter Oil Co. Inc.'s Kinard 1, se nw 32-18-14, dr 2190 ft, arr deepen.

WOODRUFF COUNTY—L. P. Lively's P. Perkins 1, se se 5-5n-2w, rur.

YELL COUNTY—Rainbow O&G Co.'s Berry 1, ne ne 16-5n-24w, sd 1165 ft.

NORTH LOUISIANA

BIENVILLE PARISH—Benedum & Trees Oil Co.'s Sprawls 1, ne nw 7-15n-6w, sd mix mud 4450 ft. Duncan & Fuller's J. Hutton 1, nw nw 4-18n-7w, dk. T. L. James & Co.'s Harrison 1, nw nw 2-16-6w, dr 2290 ft. Saline Drilling Co.'s Pardee 1, ne ne 27-14n-6w, arr res 160 ft.

BOSSIER PARISH — Jno. L. Anderson's Leonard 1, sw sw 19-19n-13w, sd 3750 ft. Scott et al's Sherrell 2, 13-19n-12w, lcn. W. A. Kirklin, Tr.'s Garrett & McKellar 1, nw nw 3-21-13w, rur. L. M. Moffitt et al's W. H. Martin et al 1, sw nw 2-21n-12w, dr 1765 ft. Producers O&G Co. Inc.'s W. H. Werner 1, se se 7-17n-11w, running 4½-in csg 3990 ft.

CADDO PARISH—O. L. Hickman's Fee 1, 36-17n-13w, dr 1130 ft.

CATAHOULA PARISH—T. R. Hincey's La. Central Lbr. Co. & Tensas Delta Lbr. Co. 1, sw ne 32-9n-6w, dr 300 ft.

CLAIBORNE PARISH—K. C. Bundy et al's J. K. King 1, 12-21n-7w, dk.

DE SOTO PARISH—L. H. Alderson's Peak 1, nw ne 25-11n-13w, sd 3070 ft. Century Oil & Drilling Co.'s J. M. Norton 1, sw ne 27-11n-14w, used acid, dry, arr deepen 1620 ft. Dempsey & Manziel's Thigpen 1, sw ne 33-13n-13w,

cemted 8¼-in csg 1660 ft, arr use acid, td 1730 ft. E. L. Foster et al's Youngblood 1, ne ne 9-11n-14w, owdd, td 1502 ft. Hester et al's Alston 1, ne sw 11-11n-16w, arr set csg td 2210 ft. Geo. LeGrande's Vance 1, 34-12n-16w, dr 1838 ft. E. T. Oakes' Johnson 1, ne nw 30-13n-15w, dr 5455 ft oolitic beds.

EAST CARROLL PARISH — Holcomb & Thomasson's Millikin 1, ne ne 22-23n-12e, dr 2030 ft.

NATCHITOCHES PARISH — Benedum & Trees Oil Co.'s Carver Est. 1, se se 6-8n-7w, dr to 3120 ft, crooked hole, pb to 2000 ft, wocs. Clyde Creighton's Friedman 1, swc 52-7n-6w, arr res 1090 ft. Jack Lent's Brown Lbr. Co. 1, ne sw 27-9n-9w, showed sw 3002 ft, sd.

RED RIVER PARISH—Cope et al's R. M. Thomas 1, nw se 34-13n-8w, used acid 1678 ft, claimed swabbed some 39 grav oil, dr 1920 ft. O. K. Oil Co.'s Franklin Realty Co. 1, sw se 32-11n-9w, dk.

SABINE PARISH—R. L. Gay, Tr.'s Long-Bell Lbr. Co. 4, ne ne 5-8n-13w, rur. R. B. Campbell et al's Cook Ld. Co. 1, nw nw 35-10n-12w, 6-in csg 1659 ft, using acid.

TENSAS PARISH—H. B. Schumacher, Tr.'s Curry 1, nw nw 39-11n-12e, owdd 3750 ft.

WINN PARISH—Red River Ref. Co.'s Tremont Lbr. Co. 3, 26-11n-1w, dr 1370 ft.

MISSISSIPPI

BOLIVAR COUNTY—White & Jones' Ballou 1, se se nw 17-24n-7w, rur.

GREENE COUNTY—United Gas Pub. Serv. Co.'s School Board 1, w½ w½ 16-1n-5w, 16-in csg 265 ft, dr 850 ft.

HARRISON COUNTY—Big Ridge Oil Co.'s Hingin 1, 13-7s-10w, cemtd 8-in csg 60 ft, dr 550 ft sandy shale.

ISSAQUENA COUNTY—Pelican Oil & Gasoline Co.'s Martin G. Bender 1, nw nw 11-12n-8w, dk.

MONROE COUNTY—P. J. McAlpine et al's Frank Rye 1, ne sw 15-15s-17w, top Paleozoics 595 ft, dr 1750 ft sandstone. Crook 1, ne ne 4-13s-18w, set 8-in csg 600 ft, td 720 ft.

PEARL RIVER COUNTY—Gulf Ref. Co.'s Goodyear-Yellow Pine Lbr. Co. 1, nw nw 21-3s-17w, sdtr, td 2900 ft.

SIMPSON COUNTY—Berry Corp.'s R. T. Berry 2, sw sw 33-2n-4e, sd 2048 ft. J. N. Little 1, ne ne 32-10-21e, dk.

STONE COUNTY—Gulf Ref. Co.'s Dantzler Lbr. Co. 6, sw sw 22-4s-11w, dr 3010 ft.

WALTHALL COUNTY—Mutual O&G Co.s Boyd 1, sw sw 19-2n-10e, rog.

ALABAMA

HOUSTON COUNTY—Rice O&G Co.'s Oakley Est. 1, nw sw 9-3n-29e, arr core 2550 ft, Eutaw.

LAMAR COUNTY—De Soto O&G Co.'s Gardner 1, nw nw 22-15s-16w, sd 4182 ft.

PIKE COUNTY—Alabama Drilling Co.'s Faulk 1, nw nw 31-11n-21e, blg dk.

TENNESSEE

FAYETTE COUNTY—M. J. Kissick's Langston 1 (near Stanton), rur.

HAYWOOD COUNTY—E. R. Henderson's Jarrett 2 (near Brownwood), sp 10-in csg 40 ft, dr 400 ft.

MICHIGAN

MIDLAND COUNTY—Goll Graves Mechling's Crane 1, 16n-2e, sec 21, sd 1250 ft; Oviatt 1, 16n-2e, sec 24, br. Howard Patterson's Haskins 1, 13n-2e, sec 26, dr 1500 ft,

ISABELLA COUNTY—Thompson Bros'. Isabella Bank 1, 14n-5w, sec 22, sd 1294 ft. Arbaugh Bros'. Aldrich 1, 14n-6w, sec 22, dr 1130 ft. Youman & Wyckoff's Terry 1, 13n-6w, sec 30, dr 2000 ft. Hall-Be-Oyle Synd.'s Leiters 1, 13n-6w, sec 32, standardizing 1200 ft. Michigan Gas & Oil Co.'s Hanson 1, 16n-4w, sec 33, lcn. G. G. Hanner's Dargitz 1, 16n-4w, sec 20, sp.

OGEMAW COUNTY—McClanahan Oil Co.'s Boutell 1, 22n-1e, sec 5, dr 2800 ft; Canard 1, 21n-3e, sec 22, dr 1962 ft. Muskegon Oil Co.'s Wilson 1, 22n-1e, sec 24, dr 1900 ft. W. C. Mee's Gibbs 1, 21n-3e, sec 30, sd 2610 ft. Youman & Dalton's Hulstead 1, 22n-2e, sec 36, sog Traverse.

MONTCALM COUNTY—Daily Crude Oil Co.'s Christensen 4, 12n-6w, sec 4, dr 1600 ft. Tope-Voorhees-Blunt's Neff Ranch 1, 11n-6w, sec 22, dr 2975 ft. L. E. Duvall's Eiknorch 1, 11n-10w, sec 13, fsg 670 ft.

MECOSTA COUNTY—Alma-Mecosta Synd.'s Sullivan 1, 14n-8w, sec 19, lcn. Gordon Oil Co.'s Brisboy 1, 13n-7w, sec 8, sd 1100 ft. Daily Crude Oil Co.'s Rouen 1, 16n-10w, sec 24, drv p 425 ft. Taggart Bros.' Schulberg 1, 14n-9w, c-sw ne-4, lcn. Seacord Oil Co.'s Van Houghton 1, 13n-7w, sec 35, drv p 125 ft. John Vale and E. C. Ward's Flowers 1, 15n-7w, se ne-33, sp.

GLADWIN COUNTY—M. F. Whitehill's Kintner 1, 17n-2w, sec 11, sg 3965 ft, sg and o 3966 ft, flowed estimated 175 bbls first 48 hrs, bottom hole 3967 ft, waiting for orders. Atlas Drilling Co.'s Cronk 1, 19n-1w, sec 23, sd 125 ft.

GRATIOT COUNTY—Ithaca Oil & Gas Co.'s Thum 1, 9n-1w, sec 19, sw 2964 ft, pb to 678 ft to test gas show. Mid-State Dev.'s Yost 1, 12n-2w, sec 27, sd 4000 ft. McClanahan Oil Co.'s Sullivan 1, 12n-3w, sec 33, dr 375 ft.

WAYNE COUNTY—Drake & Parsons' Realty 1, Ecorse twp, sec 36, sd 1625 ft. Haven Oil Co.'s Schmidt 1, 2s-8e, sec 3, dr 400 ft.

SAGINAW COUNTY—Chapin Oil Co.'s Sutlif 1, 9n-1e, sec 16, sd 2500 ft. Smith Petroleum Co.'s Palberg 1, 10n-6e, nw sw se-20, mim. Fred Turner et al's Sunrise Farm 1, 10n-4e, sec 6, dr 400 ft. Great Northern Oil Co.'s Olmstead 1, 13n-3e, sw se nw-23, mim.

OSCEOLA COUNTY—Mellon and Pollock's Johnson 2, 17n-10w, sec 1, dr 3400 ft.

SHIAWASSEE COUNTY—John F. Hurley's Van Pelt 1, 5n-2e, sec 35, dr 1600 ft. Geoysn Oil Co.'s Hnevsa 1, 8n-2e, sec 34, dr 1200 ft.

LIVINGSTON COUNTY—H. Snell et al's Zebb 1, 2n-5e, sec 34, dr 5080 ft. Talbot Oil Co.'s McPherson 1, 3n-4e, sec 35, dr 600 ft.

OAKLAND COUNTY — T. F. Caldwell's Beecher-McKay 1, 1n-7e, sec 21, dr 1100 ft.

HURON COUNTY — Goll-Graves-Mechling's Richmond 1, 17n-10e, sec 28, dr 2600 ft.

SKF Meets Demand for Large Roller Bearing

SKF Industries, Inc., has met the demand for very large self-aligning roller bearings by manufacturing a 1500-pound bearing of the latest type.

Houston Oil Field Material Opens Hidalgo County Store

Houston Oil Field Material Company has opened a new store at Sam Fordyce, in the Rio Grande Valley of Texas, to serve the new Hidalgo County field. Bob Lynch is manager of this store, which comes under the direction of C. P. Smith, who is district manager over the company's South Texas territory, including the Freer store.

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NEWS *from the* *Industry's* EQUIPMENT MAKERS

Victor G. Vaughan Joins Spencer Thermostat Company

Victor G. Vaughan, who has been manager of the Appliance Engineering Division of Westinghouse Electric and Manufacturing Company, now is associated with Spencer Thermostat Company of Attleboro, Massachusetts, where he has charge of all operations including developments of new products.

After finishing college with honors, Mr. Vaughan obtained a position as tester with the Westinghouse organization, where he remained until the World War. At the cessation of hostilities Mr. Vaughan became an engineer for Magnolia Petroleum Company, but soon returned to Westinghouse Electric and Manufacturing Company. This time as appliance engineer. In 1927 he was elevated to the management of the appliance department. Three years later the safety switch engineering department was placed under his control. He continued in this position until June 1, 1934.

A. A. HAGLUND

Works manager of Axelson Manufacturing Company, Los Angeles, who is on an extended tour of South American oil fields

Oil City Brass Works Increases Plant Facilities

Oil City Brass Works, Beaumont, Texas, manufacturers for many years of brass, bronze and aluminum castings and finished products, and distributors of brass and copper rolling mill products, recently has completed the addition to its oil industry service of a large, modern steel forge shop.

A new addition to the plant of 50 by 130 feet represents the new hammer forging plant which is equipped with 2000-pound and 3000-pound steam hammers. The steel heating furnace is equipped with the most modern burners, and uses natural gas fuel. Heat from this furnace is supplied to the automatic water and heat control boiler, which supplies steam to the forge hammers, thus cutting the fuel consumption of the forge plant approximately 50 percent.

The steel forge plant addition brings the total space of the present plant to 27,000 square feet, including a complete pattern shop, general machine and repair shop, and the brass, bronze and aluminum casting plant. The casting plant is equipped with three melting furnaces, including a 1000-pound, a 2000-pound, and a 3000-pound furnace.

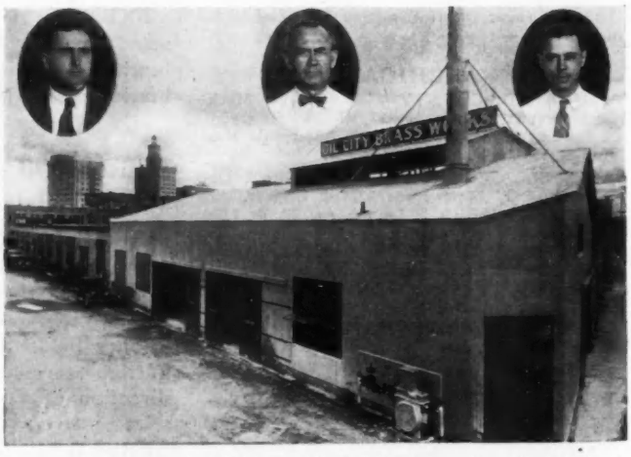
Westinghouse Electric Supply Company Announces Promotions

According to a recent announcement by F. A. Merrick, president of Westinghouse Electric Supply Company, Bonnell W. Clark has been appointed vice president and general manager of that company and both H. N. Gansman and R. J. Holtermann, vice presidents.

Mr. Clark joined Westinghouse Commercial Investment Company as a special agent in 1925, later becoming assistant to the vice president, and in 1927 receiving the appointment of general manager of that company. When the company name was changed to Westinghouse Electric Supply Company, Mr. Clark retained his position as general manager. His previous connections have been with Robertson Electric Company, Buffalo, New York, (now Robertson-Cataract Electric Company); Gould Storage Battery Company, as general sales manager; and later with Gillespie Eden Corporation. His education was pursued at the elementary schools at Adrian, Michigan, followed by College Preparatory at Manlius School, Manlius, New York, and then as a student at the University of Michigan.

Mr. Gansman, upon graduation from the University of Pennsylvania with a degree in mechanical engineering, became an apprentice with Westinghouse Electric and Manufacturing Company at East Pittsburgh. He has been with Westinghouse Company during his entire business career and, in 1920, when Westinghouse decided to build up a chain of distributing, he was given the management of the first institution they acquired. In 1931 he came to New York to become general sales manager of the Westinghouse Electric Supply Company.

Interior view of Oil City Brass Works plant, showing steam hammers and furnace



Exterior of plant. Insets (left to rigth) Geo. E. Bryant, Jr., Vice President; Geo. E. Bryant, Sr., President, and B. D. Todd, Office Manager

Squeaks *from the* BULL WHEEL

Boss—When you called up my wife and told her I would be detained at the office and would not be home until very late, what did she say?

Steno.—She said, "Can I depend on that?"

He was poor and honest; she was rich and a beauty. He had just proposed and been refused.

"Why, you couldn't even dress me," she said.

"Well, what of that?" said he. "I could learn."

He had never played poker, says Danver in the Pittsburgh Post-Gazette, but he didn't like to refuse. After the game one of his friends asked him:

"How did you come out?"

"Oh," he replied, "I managed to win a few dollars, although the other fellows cheated."

"What do you mean, cheated?" the friend inquired.

"Why," he explained, "we each got one card turned down and four turned up. I saw some of them turning up a corner of their down card to see what it was, but I didn't like to say anything, as I was winning anyhow."

From the deep East Side in New York went out this 10-word telegram to the head of the family temporarily in St. Louis on a business trip:

"Bruises hurt erased afford erected analysis hurt too infectious dead"

An accurate translation of the above, which is not code, follows:

"Bruce is hurt. He raced a Ford. He wrecked it. And Alice is hurt, too. In fact she is dead."

A parson was visiting a home and before leaving called for the family Bible, to read a chapter of Scripture.

Bobby's Father: "Bobby, go and get the Bible—you know, the Big Book that we all read so much."

Bobby soon returned carrying a large mail order catalog.

The lane was dark and deserted, and Jones was suddenly accosted by two men, the bigger of whom said politely: "Excuse me, sir—I wonder if you could oblige me with the loan of a penny?"

"Why—er—yes, I think so," replied Jones. "But may I ask for what purpose you require it?"

"Oh, certainly, sir," the other replied. "My mate and I wish to toss the coin to decide our little argument as to which of us shall have your watch, and which your wallet!"

Sam, the colored driver of a mule team, saw a little lizard crawling up a tree. He flourished his long whip and very deftly snapped off the lizard's head. Farther along the road, with skillful precision he picked up a horsefly off the fence with the same weapon.

A white passenger in the coach finally said: "Sam, take a crack at that hornet's nest there."

Sam grinned and shook his wooly head, "No, suh, no suh, boss; them fellows is organized."

"Have a cigar?" said the man with the smiling face.

"Don't mind if I do," said his friend. "But what's the occasion? Why this lavish display?"

"Oh, I've got an addition to the family."

"You don't say so? Congratulations!" said the other man, enthusiastically, as he put a match to his cigar. After a few puffs he observed, "About the fifth child, I should say."

"Doctor, is there any danger of the operation proving fatal?"

"Really, my good man, considering that we are experimenting on you free of charge, your idle curiosity is hardly good form."

Poet—Do you think there is any chance of my getting this poem in your magazine?

Editor—There may be. I'm not going to live always.

"What's the idea of that cross-eyed man for a store detective?"

"Well, look at him. Can you tell who he is watching?"

"My boy," said the magnet to his son, "there are two things that are vitally necessary if you are to succeed in business."

"What are they, dad?"

"Honesty and sagacity."

"What is honesty?"

"Always—no matter what happens or how adversely it may affect you—always keep your word once you have given it."

"And sagacity?"

"Never give it."

To Oil Men and Engineers with Inventive Minds

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DIESEL DRILLING ENGINE—90-H. P., 6-cylinder, Fairbanks-Morse Cable Tool Drilling Engine complete with two-speed roller bearing neutral brake, Reversible O.C.S. Clutch; portable Air Starting Unit; Lighting Plant, and Steel Fuel Tank. This equipment has seen very little service. It has been completely overhauled in our shops, has been rigidly tested, and is guaranteed to be in first class working condition. Complete unit weighs 17,000 lbs. Will deliver anywhere. Phone, wire or write Wichita, Kansas, Office for price, terms, etc.

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UNION TOOL ROTARY—Exceptional bargain. Rig complete in every detail. Intact as originally sold by one of our men. Used only on shallow work. Has (3) 100-h.p., 200-lb. W.P. Broderick Boilers; 12x12 Ideal Drilling Engine; and all other Union Tool Units. Also 4100 feet of 6⅝-in. Drill Pipe and many extra tools. Everything needed to start work. Carries our regular used equipment guarantee. Now located in southern Oklahoma. For itemized list of equipment, price, terms and all details contact Wichita, Kansas office.

"SUPERIOR" PUMPING ENGINE—25-H.P. Superior Gas Engine complete with Reversible Clutch. Has been overhauled and is in first class operating condition. Very attractive price.

"MARION" PUMPING ENGINE—35-H.P. Marion Gas Engine complete with Reversible Clutch. Has been completely overhauled—Cylinder re-bored, new piston and rings installed, and other repairs made and new parts installed to put it in first class condition. We've thoroughly tested it and its a nice running engine. Can be delivered anywhere.

HEAVY DUTY ROTARY AT HOUSTON—Complete rig originally sold new by us. Used only by one operator and is intact as originally purchased. Equipment includes (3) 125-H.P., 300-lb. W.P. Kewanee Boilers; 12x12 Oilwell enclosed Timken Roller Bearing Twin Cylinder Engine; (2) 14½x7½x18 Ideal Slush Pumps and other late type, heavy duty standard rotary units. May safely be purchased without inspection—carries our regular used equipment guarantee. May be loaded at Houston for shipment anywhere. Inspect it in our Houston yards or phone, wire or write for itemized list and complete description.

DRILL PIPE CASING—Made from the best grades of used drill pipe; new threads; new first quality collars bucked-on; and rigidly inspected. We are in position to make immediate deliveries of any quantity required from conveniently located stocks in Mid-Continent and Gulf Coast.

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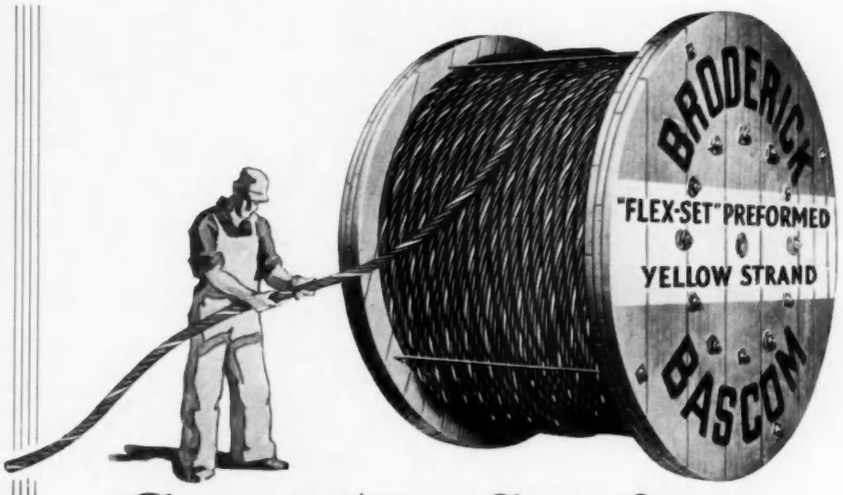

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